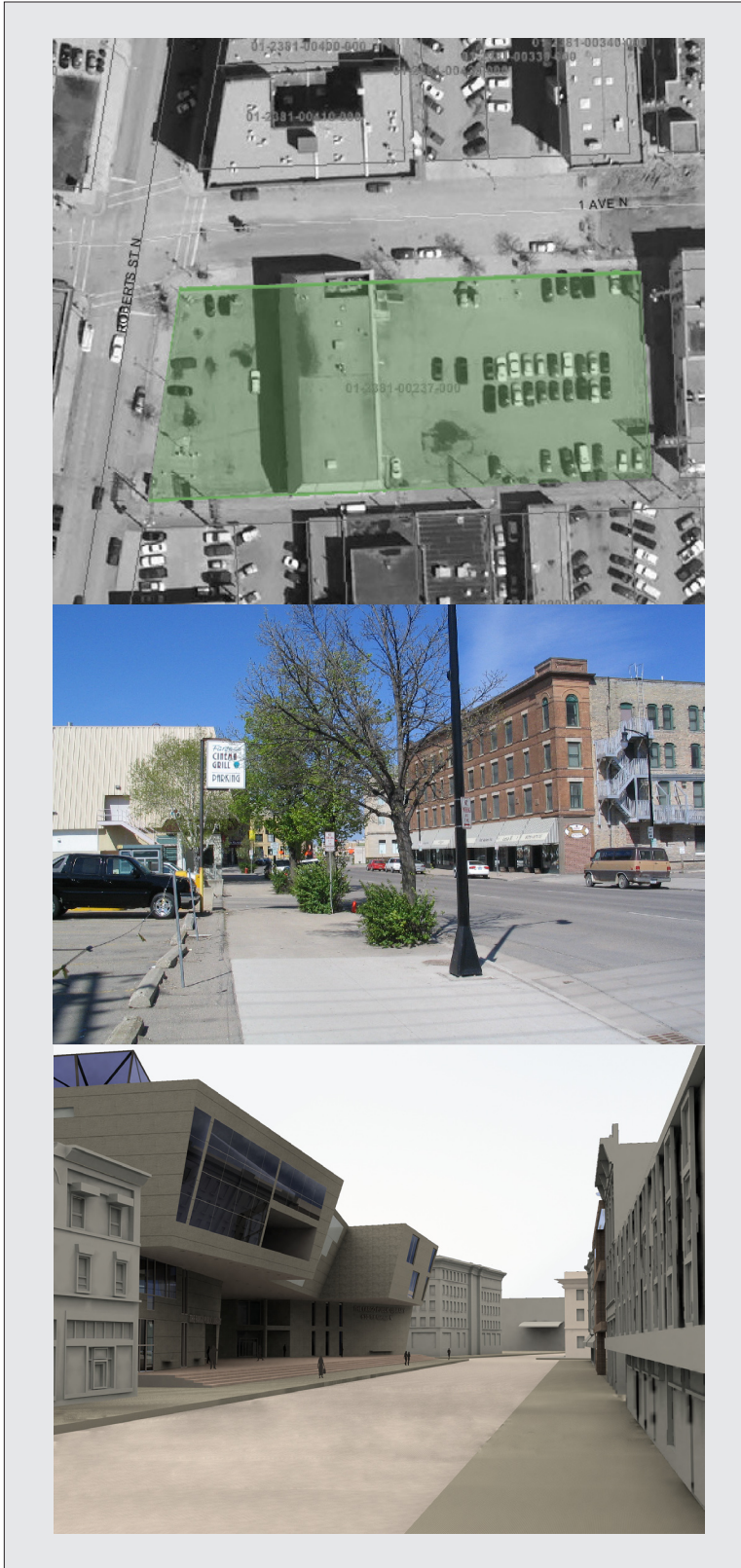


THE CENTER FOR COLLECTIVE KNOWLEDGE

The Rebirth of the Fargo Public Library
and the Revitalization of Downtown



Brian Feser
Design Thesis May 2006
North Dakota State University

THE CENTER FOR COLLECTIVE KNOWLEDGE

The Rebirth of the Fargo Public Library and the Continued Revitalization of Downtown

A Design Thesis Submitted to the
Department of Architecture and Landscape Architecture
of North Dakota State University

By

Brian Feser

In Partial Fulfillment of the Requirements
of the Degree of
Bachelor of Architecture

Primary Thesis Critic - Ganpat Mahalingam

Thesis Committee Chair - Don Faulkner

May 2006
Fargo, North Dakota

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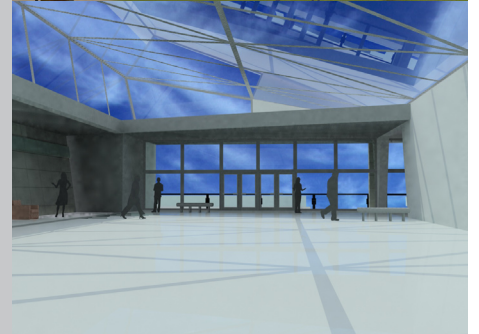
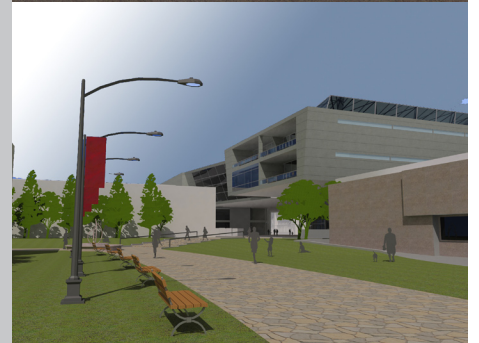
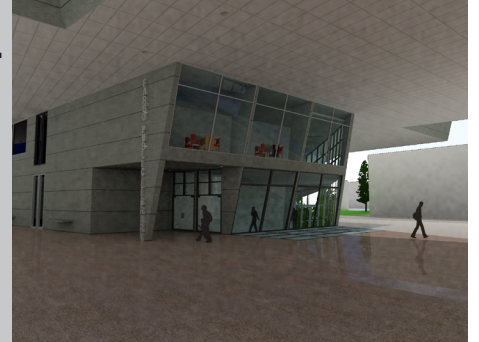
The Rebirth of the Fargo Public Library and the Revitalization of Downtown

- Project Type - : Library/Civic Building
- Location - Fargo, North Dakota
630 1st Avaneue N.
- Scope - This project will encompass both quantitative research methods as well was qualitative research methods.
- Thesis Abstract - This thesis project will explore a public library for the future. The thesis questions will explore the following: what is knowledge, how is it perceived, and what function will the public library take as knowledge becomes universally available.
- Theoretical Premise - Knowledge is built upon the shoulders the people who came before us. Knowledge is created through experience. This experience can be physical, observed or learned. Social interaction is a primary way in which knowledge is shared and experienced. With out this interaction and process of transference there is no continuation of human knowledge. My design metaphors will arise through further examination.
- Project Justification - The justification for this project is to create a library that can adequately face today's challenges as well as be ready for tomorrow's unknowns. To use a public building to reconnect the pedestrians of the city. Some current challenges are; the growing lack of local and governmental funding, and in some cases, a dwindling interest by the public. The issues that my research will attempt to shed light upon are; how can a public building reconnect people with a location, what public functions can be included within a library and how will the library face dwindling funds?



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PROPOSAL

PROPOSAL

NARRATIVE

As human beings we have gone to great lengths to “store” our acquired knowledge, whether it be in the form of a spoken language, written words or ones and zeros. For centuries libraries have been the focal point for people who want to experience knowledge. The transmittal and transference of knowledge is as important as the knowledge itself. Ancient stories told by the wise man to a child, memories written down and passed along to a second generation and the “on’s” and “off’s” of binary code are all modes of storing and passing knowledge to various people. As cities were created across the world, so to were libraries for its masses. The concept of a building that houses knowledge transcends all linguistical, cultural and ethnic barriers. As technology increases, does the traditional role of the library stand a chance? Or must it change, evolve and adapt much like the people who inhabit its space?

As society grows and evolves, so to does its acquired knowledge. Knowledge is the consciousness of society. Knowledge can not be defined as one thing, but rather as the experiences, memories, instincts and even emotions that the human race shares in. As society and its use of technology grows, what dangers will present themselves to us in our quest for knowledge? Will we, as a species, reach a point where we have too much information? Will we have every piece of documentable knowledge at our finger tips but not be able to interact with the people who created it? Will our technology surpass our humanity?

If any of these questions deserve an answer, then we must, as designers and researchers, explore these concepts and try to usher in a new era for the traditional role of the library. We must observe our fellow man, and create a space for him where he can become educated in all aspects of life. This thesis project, through research and analysis, hopes to answer these questions by exploring the ideas, concepts and theories of what knowledge is, how is it transmitted to individuals, the social implications and factors of knowledge and the new role of the library.

CLIENT / USER DESCRIPTION

The client for this particular project is the City of Fargo in coordination with the Federal Government. The City of Fargo realizes the need for a library that will not only last for years to come structurally, but also last for years to come in the face of changing conditions. The city of Fargo also realizes that a new library will not only give a point of interest to the downtown area, but that a new library may also be able to re-center its community.

The City of Fargo will be building this structure for the people of Fargo and its surrounding areas. The spaces are intended to accommodate all members of Fargo’s community regardless of age, sex, religious affiliation, political parties, ethnicity, or cultural differences.

The financial ownership of this building will be shared in a joint partnership between the local city government and the Federal Government. In response to the changing needs of locally funded libraries, the Federal government has set up a program in which it will give grants to cities who decide to build new public libraries. Because of the constant financial drains on local governments, library “businesses” may also be implemented, these being library owned businesses like coffee shops and gift shops who proceeds will go to the continued funding needed for a public library.

The qualitative requirements for the business employees, library staff, potential office space renters and patrons of the library are the basic human desires that buildings are designed to take care of. These needs are; close parking to the building during all months, especially for the handicapped population, a warm and dry space in the cold seasons and a cool space during the summer seasons, as well as safe and inviting work/study spaces for people of all ages to enjoy.

Quantitative requirements for this building will be for the staff and patrons differ only in its specialization of activities that these specific groups will be doing. Staff members would like both naturally and artificially well lit interiors, secure access to the building, and ease of accessibility to their loading docks. The users of the spaces would also like naturally and artificially well lit individual reading/self reflection rooms, as well as meeting rooms, group study rooms and common areas.

The peak usage of this building will be the late afternoon hours of operation as well as weekends. Parking requirements will vary greatly upon peak hour usage of the downtown area and peak seasons for close to structure parking. Since this project will be part of a revitalization of a city corner, an integrated parking ramp and a bus lane will also be considered. Concerns for the down town area will also have to be looked with at closely. Studies that will determine will include looking at the peak seasonal usage of parking, and the downtown’s peak hourly parking.

Medical concerns for this project will be light. The primary concerns are for the senior citizens and the distance they have to walk to the building, the number of handicapped spaces for parking, the amount of stairs they are forced to take and their access to elevators.

MAJOR PROJECT ELEMENTS

Not all of the major project elements can be fully listed at this time, due to further research that needs to be conducted. However there are some major elements that should be implemented despite the metamorphosis in typology that may take place. Some of these elements are as follows:

Study Spaces

These spaces are vital for any building that houses knowledge. As new ideas and philosophies are presented to us (the individual,) especially those in particular that challenge our very core beliefs, we require spaces for further research, meditation, and reflection.

Group Discussion Areas

As groups of people, either stranger or friend, acquire knowledge they may wish to express it by verbally communicating with their peers. Thus, group or “community” rooms should be made available for them.

Main Entry

How a building is entered and the impression that is left upon its user is as important as first impressions are when meeting a new person. This entrance should be bright and open, yet have a sense of importance and respect. Knowledge is enlightenment which is why the main entrance should be bright. Knowledge also opens our minds to new possibilities, so to must the entrance reflect this. Knowledge also demands respect so to should the main entrance.

Observation Points

Observation is one important way in which we acquire knowledge, especially when pertaining to social norms, morals and socially acceptable behavior. At some points within the structure the user should be able to look out to view and observe the culture of which they are a part of.

Accessibility

As technology drives the accumulation and distribution of knowledge, it makes it easier and harder to find what you are looking for. If you know the correct way to search for information you will find it quickly, however, if you do not know how to search, your processes can be long and difficult. The spaces in this building should be easily found by all peoples, through the use of signs and a well thought out and executed plan.

SITE INFORMATION:MACRO – MICRO

1.REGION.

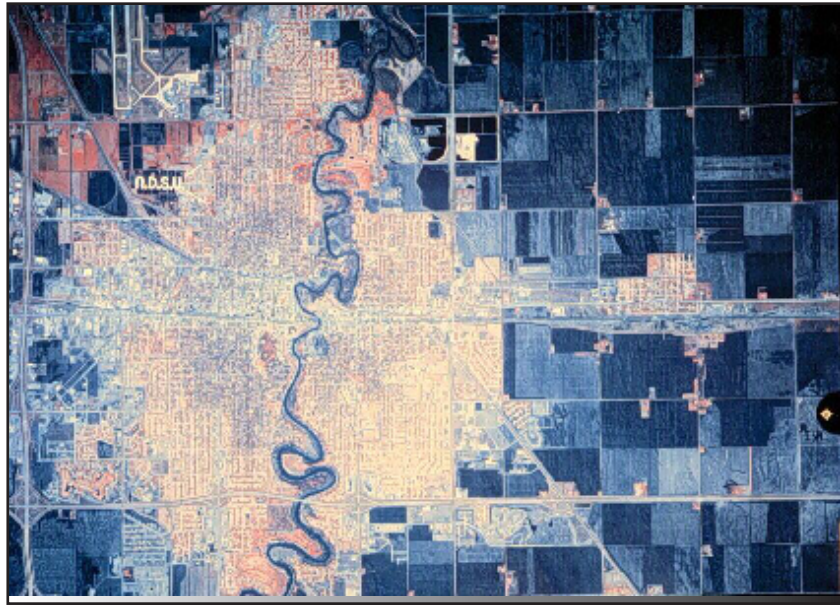


PHOTO 1.1

The Red River Valley was formed by the ancient Glacial Lake Agassiz around 12,000 years ago. During this time the continental glacier that covered the basin retreated northward and the glacial lake was formed. The lake eventually drained and formed what in we now know as the Red River Valley, leaving in its wake a region with a soil composition of clay and slit which can suffer from liquidfaction quite easily if the conditions are right. With our soils being composed of a viscous quality clay, and an actual buildable bedrock between 100 and 200 feet below top soil, building structures that have a great load capacity, such as high rises, are very hard to do. However, these soil types (Bearden, Hegen, Glydon, Ulen, Fargo, Garena, Embden, and Ryan) may not have the nature to be built upon, they are some of the most fertile land in the United States.

The “unnaturally” flat topography is due to the giant glaciers that slowly plowed their way through the mid west part of the country, and also due in part to the very little, or almost no geologic activity in our region because of our distance from fault lines, volcanoes and mountain ranges. Because of the lack of geologic activity and the ancient glacial movement, the Red River Valley is one of the flattest areas in the United States.

2. CITY.

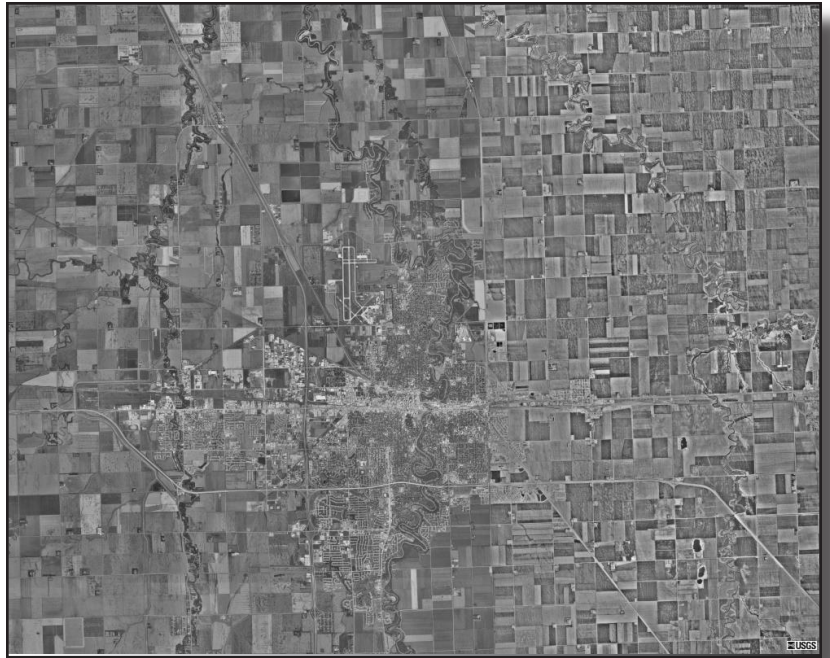


PHOTO I.2

Demographics.

As of November 2004 the population of Fargo was 90,599. As of 2000 Fargo had a higher percentage of educated people when viewed against the rest of the nation. With roughly 12% of Fargo population being 5 – 14 years of age, and roughly 8% of our population being 15 – 19 years of age, we see that we have a large number of children that could benefit from a new library. With 15 percent of our population being made up by the remaining fields respectively for each category 20-24, 25-34 and 35-44, almost 50 percent of the city is young, to middle aged people, due in part to the three colleges located within 15 miles of downtown Fargo. These demographics show that Fargo has and will maintain a strong young to middle aged (median age of 30.1) citizen base, which also means that the city of Fargo has the potential to grow even quicker than it already has. Fargo has a ratio of 1 to 1 between males and females. At the time of the census, Fargo's population was 94.17 percent White Non-Hispanic, however with our city's goal of diversity and helping families from other countries, Fargo's ethnic numbers are sure to grow. Fargo also has a strange demographic number for North Dakota. That is, 52.87 percent of residents are renters. This is also due in part to the 3 colleges within the area.

City climatics.

North Dakota, and Fargo in particular, are regions of extremes. Fargo is a city that is buffeted by low level, high velocity prairie winds, hail, floods, temperatures that push the limits both high and low, tornadoes in the summers and springs, and blizzards, white-outs, and inches upon inches of snow in the winters. It makes a person wonder why any individual, family, or city would settle here, but the human spirit grows in all types of climates. It should be noted that all information cited in the following sections will be studied further as it implies on its impacts to the spaces created. Fargo averages a yearly rain fall average of 41.0 inches and respectively an average of 40 inches of snow fall in a years period.

Fargo receives a high percentage of possible sunlight. However, on average Fargo only has 88 days that are classified as clear. There are 109 days that are partly cloudy and 168 that are considered cloudy (with more than 50% cloud coverage). On December 21st Fargo receives 8.5 hours of daylight, and 16 hours on June 21st. On the summer equinox the sun starts at 55° east and west of north (the azimuth) and rises to an angle of 68° above the horizon (the altitude). On the winter solstice the sun starts and ends at 125° east and west of north and only rises to an altitude of only 20° above the horizon.

3. SITE.



PHOTO 1.3

Attributes and History of the site.

The site, which lies in downtown Fargo is of particular interest for this type of a project for a number of reasons. To begin with, in the very beginning years of Fargo, they erected the Fargo Public Library across the street from the chosen site. From 1903 to 1962 this site remained the only library in Fargo. In 1962 the original library was demolished and moved to a location close to the Red River on the East side of Fargo, during Fargo's urban renewal program. By relocating a library for the future so close to a site that many Fargo residents can still remember as the original site of the library will bring the old and the new together. Also, the city is at the time of this research, actually looking to build a new library. Lastly, not only is the specific site itself in dire need of revitalization but so to is the block that it sits on and the block that surrounds it. In 1960, the Cinema Grill was built on the chosen location. In 2001 it closed its doors and the building has been abandoned since, along with the property. The corner on which the site sits is playing a pivotal role in Fargo. The site serves as a stopping point or a continuation point for the revitalization of Fargo's downtown area. The site is approximately 46700 square feet.

Finances.

The economic base of the site is, according to a 2005 certified assessment, states that 310,000 dollars are needed in improvements and 513,100 dollars is the base worth of the land. Together with improvements brings the land worth to 823,100 dollars (City of Fargo GIS Information 2003).

PROJECT EMPHASIS

This project has a number of areas of emphasis that must be researched for further design and theory development.

- DEFINITION Research must be conducted on the true definition of knowledge.
- TRANSFERENCE Once the question of what knowledge is has been decided upon, we must then ask and research how is knowledge transmitted to people.
- SOCIETY We must also research how knowledge in any form, impacts a culture, society, and community.
- CASE STUDIES - After conclusions are drawn from the data accumulated we must then do in depth case studies on buildings that are pushing the typological boundaries of what a library is.

PLAN FOR PROCEEDING

Research and analysis will use the Mixed Method, Quantitative/Qualitative Approach, which will be guided by the theoretical premise. For implementation of this approach both quantitative and qualitative data will be gathered concurrently. The priority of the data will be based off the requirements of the theoretical premise.

To gather the quantitative data, statistical data will be used both from archival searches on other various demographics pertaining to the cities that houses the site, as well as other cities and case studies, scientific data gathered by case studies, and direct studies.

To gather the qualitative data, an archival search of interviews, observations and human comfort requirements will be conducted.

The design methodology will use both graphic analysis and language based arguments to solve the theoretical premise based problems. During the qualitative data processing, both space planning and language based methodologies will be used to discover the changing needs of the library.

A constant form of documentation containing sketches, short hand notes of interviews, pooled statistical data from interviews, and digital drawings will be used to account and document the path the data takes.

Schedule of Work

- Nov. 1 - 7 Start research on detailed site analysis & continue case study research.
- Nov. 8 - 14 Continue case study research & Tie in site analysis and design challenges to be considered.
- Nov. 15 - 21 Have spaces, needs, problems, and future problems concluded from case studies.
- Nov. 22 - 27 Begin the program write up.
- Nov. 28 - Dec.. 3 Review with primary.
- Dec. 4 - 9 Revise, rewrite, and submit.

PREVIOUS STUDIO EXPERIENCE

- 2nd Year Fall: Downtown Bistro - Milt Yeargens
 Spring: Rowing House - Ronald Ramsey
- 3rd YearFall: Fall: Bridge Design - Mohamad Elhenas
 Spring: Fluid Motion Performing Arts Center - Steve Martens
- 4th YearFall: Fall: St. Paul/West Seventh Urban Renewal - Harold Jenkinson
 Spring: Urban High Rise - Frank Kratke
- 5th Year Fall: Methods for the Generation of Space - Ganapathy Mahalingam
 Spring: Thesis

THEORETICAL PREMISE RESEARCH

**THEORETICAL
PREMISE**

BIOLOGY

Light works by reflecting off of an object which then, in turn, bounces back to the observer. From there the light then passes through the cornea, which is on the surface of the eye, and is directed inward towards the iris, which contracts or expands to allow more or less light into the eye. The lens, which is in the back of the eye, further concentrates the light into the center of the retina. The retina converts light energy to electrical energy through the use of cones and rods. There are approximately 100 million rods and 6 million cones in the human eye. These cones and rods are special light sensitive cells that combine to form the optical nerve which travels from the base of the eye socket to the occipital lobe where electrical impulses are converted and given meaning (National Eye Institute, 2005).

Sound, which is composed of waves, amplitudes, and frequencies is caught by the visible part of the ear, or the pinna. Those waves then travel through the outer ear canal to the eardrum, which is vibrated by those waves. The ear drum is composed of three main tiny bones; the hammer (malleus), the anvil (incus) and the stirrup (stapes.) These vibrations are then transferred to the cochlea in the inner ear. The cochlea is a snail-shaped area lined with tiny hairs. These hairs are triggered by vibrations, and relay that trigger in the form of electrical impulses to the brain. (University of Maryland 2004). These impulses travel to the Temporal Lobe where they are given meaning.

The primary receiver of data for the nervous system is the sensory system, or the skin. The skin groups many different forms of receptors under its umbrella. The body contains exteroceptive nerve fibers which react to stimuli out side of the body and proprioceptive nerve fibers which are nerves that help coordinate movement and manipulate the environment. There are five main exteroceptive nerve fibers which give us data about our outside world. Firstly, there are Ruffini receptors which respond to pressure, for example, when the depressed skin of a finger is ran over a Braille word. Secondly, we have Hair Follicle Endings, which have individual nerve receptors for each individual hair follicle. Thirdly, is the Pacinian Corpuscle, which is the nerve receptor for vibrations, which are so closely related to auditory receptors and processing areas in our brains that neurophysiologists have a hard time telling them apart. The Pacinian Corpuscles can detect vibrations between 150 – 300 Hz range. Fourthly, are the Nociceptors, which detect hot and cold temperatures. Nocieptors can detect changes in temperature as small as a hundredth of a degree. Finally, there are the Free Nerve Endings, which respond to different mechanical, thermal or noxious stimulation (Hancock, 1996). All of these receptors working together in coordination with somatosensory cortex can detect your every infinitesimal movement.

The physiology of the human sensory systems and their connection with the way that we receive data is a science that can not be overlooked. The reception to a stimulus and subsequent reaction and interpretation is how we identify with our surroundings. This most basic understanding of the

physiology of the body is intricate to a library, no matter if that library is historically grounded or based in theory. The way the body takes in information, both through the building and the information presented by the building, is the essence of a library. As a library, it does not tell a person what to perceive, rather, it merely presents the information and allows the user to decide for him or her self. The receptors of sight, sound and touch are the primary ways in which we interact and observe with the world around us. If a library does not take this into consideration when designing reading rooms, public areas or staff spaces issues such as noise levels, human comfort temperature levels and light levels may lead a person to either not spend time in your library, or not get out as much out of a library as her or she could.

LEARNING THEORIES

Neuroscience:

This approach looks at 'how' we learn. Scientists and researchers alike, look at the physical properties of the brain and its interaction and reaction with the data it receives. They have found that our brains are not linear, like a computers logic, but more webbed and adaptable. As we concentrate and use our brains, its structure actually has the ability to change. Structural changes alter the functional organization of the brain and so in other words; learning physically organizes and reorganizes the brain. Researchers have found that as we use our brain, patterns within the adapting structures are created. As those patterns become reinforced the connection is easier to make in the future, the end result is our ability for memory recall (On Purpose Associates, 1998). Neuroscience has also discovered that emotions play an important role in how people learn. Science has discovered that when a person learns something under a fearful situation, it involves the Amygdala system, a different part of the brain than the Hippocampal System which is used when we learn under 'normal' circumstances (Brain Structures and their Functions, 2005). Research has also found moderate amounts of 'stress' (a hormone called cortisol) in small amounts is actually beneficial to learning, where as too much is detrimental. Research has found that with heightened levels of arousal and pleasure the result is a stronger mental connection to what happened during that time (Rimmele, 2004). The Neurological Approach has led educators to organize their curriculum around real experiences and integrated whole ideas. They promote complex thinking and problem solving, thus allowing the brain to remain 'flexible' for the future.

Behaviorism:

There are two main types of behaviorism; Classical Conditioning and Behavioral or Operant Conditioning. Classic Conditioning is a natural reflexive reaction to a stimulus. There are two key parts to the Classic Conditioning Theory. Firstly, there is an existing relationship where an Unconditioned Stimulus yields an Unconditioned Response and secondly, we then pair the new Conditioning Stimulus with the existing relationship, until the new stimulus has the power to elicit the old response. Oper-

ant Conditioning is the same principal as classic conditioning however, the reaction to the stimulus is reinforced, which leads that condition and reaction to become predictable. There are four main outcomes of Operant Behavior. One, something good can start or be presented. Two, something good can end or be taken away. Three, something bad can start or be presented. Four, something bad can end or be taking away. This theory impacts learning in obvious ways lending itself to reinforcing behaviors when models are present (Braslau-Schneck, 2005).

Observational Theory:

The Observational Theory or Social Learning Theory states that an initial behavior changes after viewing the behavior of a model. The observational theory requires four processes, which are; attention, retention, production and motivation. An observer must pay attention to what is going on around them and the object that they are observing. It is not only important that the participant observe the object, but also retain the reaction of the observed and the context of that reaction. The observer must also physically and mentally be capable of producing or reproducing the act. Lastly, the observer must have motivation to perform the act at a future time (On Purpose Associates, 1998) When using this theory in the learning environment, this theory implies the observational theory through instruction and group projects, since the children will be able to observe each other and the teacher has the ability to assess the students ability to reproduce observed actions.

There are many different learning theories that are being used in today's classrooms. For the purpose of the library, I decided that it would be prudent to cover the theories of which most of the other theories have branched off of. These three theories represent the primary core principles in the way we look at how and why we learn. In the Neuroscience approach, which is a continuation of the senses used for learning, they stress real life experience and whole ideas. This approach, when coupled with the typology under study begins to lead the library in a different direction than previous forms of the typology have pursued. This direction is towards a more hands on approach, both physically and informatively, allowing the user to be in a situation that is more conducive to learning and retaining knowledge. The Behaviorists approach for learning is important because it says that people, at least to a certain extent, can be and are, predictable. The theory also looks at that predictability as being able to be taught or conditioned into individuals. These actions of predictability are settled upon by a culture and observation. The third learning theory, observation, can be and usually is implemented on a mass scale, i.e. society. The observation theory is the root of most social theories. This theory uses a constructionists approach that knowledge is continued forward by members of a culture. Younger generations see what is socially acceptable, and they see that acceptability rewarded and thus strive to act to receive rewards, thus becoming predictable. These theories fit within the context of a library, if that library offers some sort of social setting, where people can observe and be observed, thus passing another form of information to the user other than paper and electronic pages with words on them. That information being in the form of social constraints and behavior.

COMPONENTS TO THE SENSE OF PLACE

Color plays a large role in evoking emotions. There has in the last 20 years, been a growing interest with the study of color. Research and tests have shown that advancing hues are most often thought of having less visual weight than receding hues. Saturated color values are often viewed as active, while their counter parts are viewed as reserved. Specific colors have also been attributed with certain emotions. Using an 'universal' color arbitration chart should be used cautiously however, for different cultures will have given colors that represent their own culturally significant feelings (Princeton Online, 2005). For example in the United States green has been the imagery of money, or progress, where as in Asia it means health and peace. Color also has been given meaning through the use of bio-feedback units in alternative medicine. Where reds yellows and oranges will increase brain activity vs. blues and greens.

Light also plays a vital role in the way that people 'read' buildings and the rooms within them. Colors themselves can evoke imagery, but adding light will give 'feelings' to spaces. In the research conducted on light, colors, and the orientation of rooms, (Harleman, 2004) it was found that south facing rooms in cool colors were as accepted as north facing rooms in bright colors. In public spaces, which tend to be open expanses, light and the color it brings out are important variables for the overall mood of the people in the space.

Architectural composition is another way in which people consciously or unconsciously 'read' a building. The attributes and components of architectural composition remain mainly unchanged from their predecessors which relied upon scale, material, light and symmetry. Most of these components have been dictated by previous forms, like the form of the pyramid and the pyramids of Egypt. During the Baroque period detail and ornamentation was given to the interior and exterior of buildings to show its importance. While in the Minimalist, or post-modern movements ornamentation was done away with. Symmetry and balance give the impression of stability and longevity. Buildings like the Taj Mahal are perfectly balanced and imply perfection. For this same reason we may be able to account for the public's dislike of period pieces such as the deconstructionist period. Scale also plays an important role in how a person connects with a building. In St. Peter's Cathedral in Vatican City, the immense scale gives a person the sense of meekness and timidity, where as in The Jubilee Church for the Next Millennium there is a sense of intimacy.

Material is also another important factor in the way in which a building is 'read.' The material's texture, perceived weight and social importance plays an important role for a building. In the United States most governmental buildings are made of stone, or given a stone façade along its base, because we equate stone with strength and longevity. While a government's cupola, or dome, is usually covered in gold, which is viewed as a precious metal and attribute wealth with gold. Texture also lends itself to a way a building 'feels.' Smooth materials such as earthen materials, polished metal panels or plastics

give a more feminine feeling and allow the eye to flow around the perimeter of the building. While sharp, angular materials such as stone, brick, and in some cases wood, are considered more masculine and cause the eye to stop at key points. Through the consideration of color, light, texture and materi-

URBAN THEORIES

In an article in *The American Journal of Sociology* titled “The Cumulative Texture of Local Urban Culture” (Suttles, 1984) the author, Suttles, argued that the identities of cities are developed through competitive comparisons to other cities and contrasts to prosperous periods of the city’s own past. In this theory, cities are essentially anthropomorphized. In the case of this theory, cities (or the people within them) are entities that seek out acceptance and use other entities as a comparison of whether or not they are doing a good job. This theory is much like the social observation learning theory. Instead of looking at a person within a city, it looks at the city as the person. This ‘theory’ came on the heels of the building wars of the 1980’s caused by the money produced by the housing scams and the infant stages of the silicon age.

The theory of accumulation (Shuffield, 2004) states that cultural constructs build on the past; however, instead of looking at this as a process of just accumulation, he purposes we would be better off looking at it as the concept of ‘Residual Space’. Residual Space states that all cultural practices include some element of destruction. This can be extended into all aspects of a culture. From the traditions set in place to the buildings that a culture erects. For example, to erect a building in an urban environment, a previous urban environment must be destroyed. As sociologists and designers, the importance upon what is there and how its loss will affect the people around it, is as important as what will be. Bear in mind that this ‘destruction’ is not always as bad, as the connotation of the word implies. This destruction can also be paralleled with Marxism, in which things are given meaning by their antithesis.

Modern urban theories incorporate place, identity and community as factors of the identity of a city. These factors are used to try and solve specific problems in specific areas of specific cities. There is no broad theory that can be applied to all cities because all cities have different identities and with those identities different solutions to their problems. This concept of context identity is discussed in greater detail in the research on post-structuralism literary theory. The ‘New Urbanism’ theories that evolved in the design fields were at that time, a response to the decay of the city center and an answer for the extreme suburban sprawl away from city centers that has taken place in the last 20 years. ‘New Urbanism’ is a sociological theory that impacted the design world. This theory stated that we should look at the past to create cities for the future. This statement however, does not shed light upon the fact that, that life style was nasty, brutish, harsh and short (Hatch, 1984). New Urbanism is great for the suburbs, but what then, happens to the city? New Urbanism neglects “the sense of place” for

existing city centers that already have the infrastructure and “conditioning” it needs for survival. In fact, ‘New Urbanism’ takes away the very components that make a city a city. Also, as a theory, New Urbanism failed to look at the components of the actions leading to its conception. This can be seen in the twist of events that occurred to the ‘New Urbanists’ in the late 20th century. The 1960’s and 1970’s had generated theories of urban crisis. While the 1980’s and 1990’s added ideas of urban obsolescence due to factors such as an economic slump, the beginnings of off shoring, and the rampant drug problems that faced inner cities. The theorists on the Left tended to see cities as containers for a permanent under class, while the theorists on the Right or the ‘New Economists’ thought the city was coming to an end. New Economists or The New Economy was the name given to shift in American economics from an industrial/manufacturing-based economy into a high technology-based economy, arising largely from new developments in the Internet, telecommunications and computer sectors or the ‘death of distance’. Cities during this time were not where people wanted to live, and no longer where they had to work. (Harvey, 1997) But an odd thing happened in the late 1990’s and the early 21st century. People started to move back to the city center. Which for the New Urbanists was unexplainable and detrimental to their theory. Because of this, Urban theories have now started to turn their focus back to where it belongs, the inner city. With this turn back to the heart of cities, and the underlying theory of culture and context shaping a neighborhood and knowledge itself, an urban library seems relevant to theory and necessary to reality.

URBAN SOCIOLOGY

Urbanism is defined as the social and behavioral responses of individuals and groups of individuals to living in certain places and its changes in values, morals, customs and behaviors of a population. As a primary function, sociologists formulate hypothesis and test them. Statistics are then used to prove, disprove, and/or correlate their hypothesis with their tests or others tests. This can be said for all disciplines of sociology, urban sociology included. Urban sociologists are concerned with city demographics pertaining to economy, population, density, ethnicity concentrations etc. etc. These various city based statistics are used to try to explain, and in turn solve, issues unique to the urban environment. Urban spaces, or Urban Sociology, has emerged as the central organizing construct of studies for the post-modern movement.

The beginning theories of Urban Sociology were explored by theorists who were products of the results of the Industrial Revolution and the mass exodus of rural families into urban environments. Theorists like Karl Marx and Frederick Engels. Both of these men saw urbanization as an important and vital role in any society trying to mature. Durkheim saw urbanization as mostly welcomed and liberating, while Weber saw urbanization as a transition from a rural folk society to the formation of a nation state. Ferdinand Tönnies defined and described two basic organizing principles of human

association or two contrasting types of human social life; Community and Association. Finally there was George Simmel, who considered the importance of the act of urban experience. He chose to focus on the life within the city rather than urbanization or development of urban areas in cities (van der Veen, 2002).

Contemporary Sociology has reached mainstream thinking via the University of Chicago or The Chicago School of Thought, which gave us, among other things, the Bogardus Social Distance Scale which 'measured' the closeness we felt with other people of different ethnic groups (van der Veen, 2002). The Chicago school also gave us the concepts of a city's growth as happening in either concentric circles where jobs, industry, administrative and other functions are located at the center of a city and extend outwards as well as the concept of city growth in sectors where each sector is characterized by different economic activities.

The concept of Urban Sociology says Anthony M. Orum (Orum, 1999) "is that the real appeal of urban studies is that one can find small self contained efforts at constructing communities just about everywhere one turns. From the small town in Iowa to the large cities of Illinois, there are places that furnish for their residents means for making a living, going to school and having a home." Urban sociology through its evolution understands that urban sociology does not limit itself to the city, but also the inter-groups of a city much like a micro climate produced by a building. To many current sociologists, neighborhoods are one of the most essential and meaningful of a person's definition of place. Cities can be thought of, in part, a grouping of neighborhoods intertwined together.

Urban theorists have shown us why specific ethnic groups migrate to communities of the same ethnicity majority. They have also discussed aspects of the urban experience that borders on urban design, those being the sense of place that a neighborhood street can give to a community as well as the role the neighborhood plays within the city. When talking about identity within Fargo, there is a lack of, or disdain for, the identity from the younger generation, and a reminiscent view from the older generation. With the revitalization of Fargo's downtown district a 'neighborhood' has started to be created. However, Fargo is at a cross roads, if they keep pushing for historic renovations and historic looking buildings, they will be showcasing only one identity in a city of growing ethnic, age and technological communities. A new urban library with an underlying understanding of social knowledge and the buildings impact on the downtown neighborhood will allow Fargo to transition from a city rooted only in the past, to a city with one foot firmly grounded in the lessons learned from the past and one foot grounded in the progress of its citizens.

DIALECTICAL MATERIALISM

Dialectical Materialism is based off of the works by George Wilhelm Friedrich Hegel and Karl Marx, who both spoke at great lengths about dialecticalism. Hegel's view of Dialecticalism looked at the processes in a totally idealist form. The Dialectical Materialism philosophy that is attributed with the writings of Karl Marx are based off of Hegel's works. It was Marx however, that gave Dialecticalism its scientific, or at least its materialistic groundings through which Dialectical Materialism was born. Marx's philosophy was comprised of three areas, Dialectical Materialism, Historical Materialism, and Marxist Economics. Historic materialism is the concept that "people make their own history... but under circumstances directly encountered, given and transmitted from the past" (Brooks, 1998) or that all things are determined upon what happened the instant before. Marx's economic ideas are to far reaching to discuss in length, but sufficed to say they relied on class struggle between the working class and the bourgeoisie. Material Dialectics is a method of looking at the universe and interpreting the world around us, both in nature and society. It presupposes that everything is in a state of constant change, flux or motion. This concept of motion was so important, that it is presupposed as the most basic characteristic of matter. It explains that change and motion involve a contradiction of sorts and can only take place through these, and because of these contradictions. This struggle can be seen in a number of examples. A man has two facets of his personality, those being the public and the private sides. This struggle between the two result in the formation of public cities and private residences. On a social scale, as Marx viewed during the French Revolution, there is time of complacency, then mild irritation and then radical change, brought about by materialistic means, i.e. money and property. This concept can also be seen in the contemporary urban theory of "Residual Space" (Shuffield, 2004). Though this philosophy was considered the core belief system of communism, Marx himself was a socialist, and his developed theory has was not created for a political party specifically but as a system of social reform.

For purpose of this summary we will look at dialectical materialism in a couple of different options. Firstly, material Dialecticalism from an architectural standpoint, can be seen in everything around us. From the double paneled window separating the opposing hot and cold temperature variances, to the sidewalk and its constant struggle with the street. On a social and psychological level this opposition can be seen in the personalities and behaviors of people in public vs at home. When using aspects of this theory to define a typology the similarities are also just as poignant. The Dialecticalism of an urban library with both a public and loud space vs a private and quiet space is present. This also applies to the individual who needs the social interaction at times as well as the need for a time of reflection and personal growth. In a completely different direction but tied to dialectical materialism Marx said "When we first contemplate the world around us, we see an immense and amazingly complex series of phenomena, an intricate web of seemingly endless change, cause and effect, action and reaction. The motive force of scientific investigation is the desire to obtain a rational insight into this bewildering labyrinth, to understand it in order to conquer it. We look for laws which can separate the

general from the particular, the accidental from the necessary, and enable us to understand the forces that give rise to the phenomena which confront us.” (What is Dialectics?) The result then needs to be transmitted to others, so that they may understand and learn and grown, either through hand signals, spoken work, papyrus, or electrical conversions.

STRUCTURALISM

Structural theories are theories that try to find the meanings of things through analysis. For example, structural linguistics Ferdinand de Saussure suggested that meaning was to be found within the structure of a whole language rather than in the analysis of individual words. For Marxists, the truth of human existence could be understood by an analysis of economic structures and struggles. Psychoanalysts such as Freud attempted to describe the structure of the psyche in terms of an unconscious. Structuralism disagrees with the existentialists’ claim that each man is what he makes himself. For structuralists the individual is shaped by sociological, psychological and linguistic structures, these components are what structure our meanings of things, over which he/she has no control, but which could be uncovered by using their methods of investigation (Marxists investigation of class). They claim that meaning occurs through difference. Meaning in itself is not identification of the sign with object in the real world or with some pre-existing concept or essential reality, but rather it is generated by difference among signs in a signifying system. (Lye, 1998) Like the Marxist theory, structuralism notes that much the world is structured of and by the oppositions of its antithesis. Unlike Marxism these oppositions do not have to have a struggle to produce effects, the structuralist oppositions could merely exist, for example hot vs cold or urban settings vs nature. There does not necessarily have to be a struggle between the two oppositions for there to meaning. Structuralism was in direct opposition of the humanistic theories that ran rampant during the 19th Century which thought of the human being as an individual, separate, sacred and the only true real realm of meaning and value, by introducing the concept of a ‘subject’ vs. the prior concept of man as ego. Because of structuralism, we are able to see everything as ‘textual’, or being composed of signs, governed by conventional meanings, ordered according to a pattern of relationships. The constructionists views take the premise that things are given meaning according to some pattern of relationships, and those relationships are social interactions. Structuralism allows us to approach texts historically or trans-culturally in a disciplined way. Bare in mind that ‘text’ in literary theory does mean text, but outside the realm of literally theory, ‘text’ refers to anything given meaning to. These non verbal signs in general carry with them larger cultural meanings, called “myths” (Barthes, 1996) or second order identifiers. The structuralist approach gives us the philosophical underpinnings to approach historic designs based for their context, as well as current designs to be looked at through the meaning the we the psyche, culture and individual attribute to things. Structuralist architects view design as a process of searching for basic, underlying structures,

refers the components of a culture that are given like meaning. Within a highly structured or ordered framework, Structuralists often attempt to instill innovation and complexity. They may view Modernist architecture as poorly defined and unlivable. The Kunsthal in Rotterdam by Rem Koolhaas has been called a Structuralist design.

Structuralism in architecture could be viewed to a certain extent as the opposite of movements like postmodernism, because in post modernism ornamentation was done away with as well as any object that did not serve some purpose in the buildings structure. Structuralists realize that there is meaning in things, and they find these meaning through analysis, such as a survey of a ethnic community, and what components they would like to see a building have and why. Through this then, a design could produced that was responsive to the meanings attributed to it (Craven, 2005). This philosophy can be used in design, when using a component of some form. For example the use of a pyramid form would have the analysis of why that form is being used as well as the implications of its use.

POST - STRUCTURALISM

Post-Structuralism is a lot like Structuralism in the basis that it looks for structural analysis of components. But differs on a number of key points. These key points were initiated by Michel Foucault “The Archaeology of Knowledge” (Foucault. 1972) who later came to be seen as the most important representative of the post-structuralist movement. He agreed with modern structuralists, that language and society were shaped by rule governed systems, but he disagreed with the structuralists on two counts. Firstly, he did not think that there were definite underlying structures that could explain the human condition and secondly he thought that it was impossible to step outside of conversation and survey the situation objectively. Post Modernists see ‘reality as being much more fragmented, diverse and culture-specific the did structuralism. Because of this presupposition, post-structuralism pays greater attention to specific histories and to details, culture, language, meanings, and local contextualization of specific instances. The post structuralist would also pay greater attention to the specific role of culture and cultural practice to the area of study. Language and its texturally, and is also given greater importance under the post-structural theorist. Another important difference is in the way the post-structuralism looks at ‘man’. Post-Structuralist take the concept of man as ‘subject’ one step further. Subjects are created and through their cultural meanings and practices occupy various culturally-based sites of meaning, with a ‘site’ being roles like father, brother, etc and it carries with it a different configuration of the self, (language uses, language interpretation etc.) Subjects are also viewed as material beings. Enslaved by the practices and structures of the society to which they belong and with every social action they add to the materiality or ‘texture’ of that culture. Along with that, they view subjects as social in their very origin. From which their meaning and self value comes from (Lye, 1998). According

to Derrida meaning is textual and intertextual; there is no “outside of text”. This understanding does not mean that all reality is textual, only that what we can know of it, and how we can know, is textual, constructed through discourse, with all its rules; through symbols, linguistic and otherwise; through grammar(s). So Post-Structuralism lends its self even more to a social based theory, by saying that things are given meaning via a culture, society, and sub-cultures as well as a cultures interaction with its environment. These culture then records its meanings as history, and this history wether it from a 1000 years ago or one hour ago can go through a structural analysis, given the context of the moment in time, to decipher the true meaning of the texts.

The poststructuralism theory and the Marxist theory are actually very closely tied together. The post structuralists look at context and say that with out that context there is nothing of meaning, because meaning is given importance by its context. In a building environment then, a post structuralist would allow the building to have meaning within its context. Whether that means an urban environment or a rural one, a post structuralists building would have meaning both in site and in cultural identifiers with its context. With the form of a socially open public library, this concept of context will be hard to define, especially with the growing ethnic groups of Fargo. So in the case of the library, the cultural context may be just allowing them to mix, while the building its self can look at the context of its surroundings and subsequent design decisions from that.

DECONSTRUCTION

Language is the source of what deconstructionists describe “textually.” Deconstruction is branch philosophy which states that it is impossible to come to a complete or even coherent understanding of “texts.” A “text” is context, or any artifact of human activity that may be subject to interpretation, this is not just written document, but every thing that people give meaning to. Deconstruction is based upon the concept that no “text,” or socially constructed object that is given meaning, can convey a single reliable, consistent, just, or even coherent message to all those who read, hear, or look at it. Basically nothing can having meaning because that meaning that it has is arbitrary, because it was given meaning to, by an unreliable source. Another central tenet of deconstruction is that the acknowledged “creator” of a text - the known author of a story or poem, for example - is less responsible for the piece’s content than are impersonal forces of culture such as language and unconscious ideology (Lye, 1998). Critics of Deconstruction in literature claim that deconstructionists focus on superficialities of language at the expense of meaning, but Derrida’s responds that ‘meaning’ itself is a form of text, and just as unreliable because any of the multivocal meanings of a text require words for their expression in which are already arbitrary. This arbitration of meaning can also be seen in the built form of deconstruction. To pigeonhole the underpinnings of the movement would do injustice

to the movement its self, but they include fragmentation, non-linear thinking and a stripping down and the building up, of what is. The movement of deconstruction in architecture is called Deconstructivism. This approach to design attempts to view architecture in its individual bits and pieces, which then, in the end creates a whole. Deconstructionist architecture can be looked upon as an ego stroking method, since nothing has meaning because all meaning is arbitrary, the architect then, in his or her own context meaning to it, sometimes at the expense of the users. Many people view deconstructionist architecture as making no sense, or have no over all balancing composition. They appear as made up, abstract forms with no rhyme or reason. Deconstructionist architects take things apart to put them back together again. They take apart the meaning of what something is and concentrate on its true meaning and representation for them. From a different standpoint, deconstructionists are fiercely adamant about 'what they were trying to convey' with their design, to a point that the building gets lost in the philosophy, which is the through design process for a deconstructionist. These builds have also not have the most glowing reviews from the public who use them. To whatever degree the people using the building figure into Tschumi's conception, they are "forces" whose movements are molded into patterns that are as much a part of the architecture as the building itself. As Tschumi writes, Lerner is "not about forms, but about forces" Their buildings become signature buildings for the architects, have a hefty price tag, and are generally unpleasant for the user (2blowhards, 2004).

CONSTRUCTIVISM

Social constructivism is an off shoot of three constructivists theories, Piaget's theory which states that knowledge is actively constructed by the learner and not passively transmitted by the educator, Glaserfeld's radical constructivism which states that cognition is adaptive in the sense that it is based on and constantly modified by the learners experience and Vygotsky's social constructivism which emphasized the role of communication as primary in the development of developing meaning and cognition (On Purpose, 1998). As an approach, it involves looking at the ways social phenomena are created, institutionalized, and made into tradition by humans. Berger and Luckmann (Berger and Luckmann, 1966) argue that all knowledge, including the most basic, taken-for-granted common sense knowledge of everyday reality, is derived from and maintained by social interactions. When people interact, they do so with the understanding that their respective perceptions of reality are related, and as they act upon this understanding their common knowledge of reality becomes reinforced. Socially constructed reality is seen as an ongoing, dynamic process; reality is re-produced by people acting on their interpretations and their knowledge of it. Social constructivism emphasizes the importance of culture and context in understanding what occurs in society and constructing knowledge based on this understanding. Social constructivism also deals largely with intersubjectivity, which is a shared understanding among individuals whose interaction is based on common interests and assumptions that form the ground for

their communication. Knowledge is derived from interactions between people and their environments and resides within cultures. The construction of knowledge is also influenced by the intersubjectivity formed by cultural and historical factors of the community. Social Constructivism explains why we give meaning to things, and from these meanings comes knowledge which is then passed through time. Social constructivists perspective on learning sees crucial both the context in which learning occurs and the social contexts that learners bring to their learning environment. Social Constructivism also explains the technological progression. Radical constructivism is concerned with showing how social processes influence the very content of technology, for example, what it means for a technology to be deemed working. It draws heavily upon the sociology of science and claims that the meaning of the technology, including facts about its working, are themselves social constructs. This latter view is opposed to any conception of technological determinism. There are two main types of social constructivism, weak social constructionism which includes concepts such as money, class and citizenship. There is also strong social constructionism which discuss the context of 'science' and its social context (Kim, 2001). This theory, that all reality and subsequently its knowledge is social constructed, and socially propelled is the underlying philosophy of my theoretical premise, which is that the function of the library for the future will have to be a combination of media delivery systems, books, and social spaces. The library will must become a socially charged space where all forms of knowledge can be presented. This theory states that you can not separate the whole wealth of human knowledge from the global culture. This evolutionary animal is always in motion, always changing, progressing, and growing, learning from its self as well as from others.

CASE STUDIES

CASE STUDIES

LOCATION: TRINITY COLLEGE- DUBLIN IRELAND
SIZE: 108,000 SQ. FT.
ARCHITECTS: MCCULLOUGH MULVIN / KEANE MURPHY DUFF

SUMMARY:

The Ussher Library is a recently completed project for Trinity College. The main program elements were book storage, book restoration and conservation, individual study space, and community spaces. The primary design elements are 3 sculptural boxes. Each box is clad in a different material and sized differently in relation to the various functions of each specific box. The largest box, clad in stone, houses the collection of books. The second slightly smaller box is used for the conservation of books, and the smallest of the three boxes clad in stone and glass is the housing for the nearly 750 reading spaces for the undergraduate population. Each 'box' is a planar element unto itself, connected by atrium spaces.

RESEARCH FINDINGS:

Though this case is a university library, while other case studies are public libraries, the Ussher library does have many similarities to other buildings that identify them selves with this typology. The Ussher Library houses a large collection of university titles. The library is

also similar in the concept of bringing light into the structure via sky lights, light wells and windows since the climate of Ireland is cool and rainy with gray, or cloudy skies a majority of the year. The Ussher Library design uses atrium enclosures to physically 'tie' each box together, allowing any natural light that the site receives to be brought into the interior of the building. Because the Ussher Library is a college university library the need for children's areas, and community focal points used in libraries like the Salt Lake City Library, are not necessary here. Also, since the kinds of collections differ, so to then does the design. This library also differs from the other buildings studied by separating the three primary functions into three different buildings connected via an atrium space, while other libraries are usually split these functions through levels. This multiple building approach gives the library simple and elegant functionality (Van Cleef, 1999).



PHOTO I.1.1



PHOTO I.1.2



PHOTO I.1.3

The Ussher Library nestled the new library (one of four) in the site and still used the primary entrance into the library complex that has always been used. The existing entrance into the cloister is the entrance of the first library built upon the site. This keeps in tradition of respecting the past and being reminded of it. The Irish culture is strong in its pride of family lineage and thus it's past. So for a new library to pay respects to the 'old' library shows its response to the Irish culture.

The Ussher Library understood the need to preserve the books that it had already collected, and it also saw the importance of the conservation of 'lost' or 'damaged' books.

In my opinion the conceptual underpinnings for this library was the creation of a well built traditional library. The library started dealing with its changing role by the implementation of a public atrium space the linked the three boxes together, but it seemed to be as much as an addition to a passage then it was a space within its self. However, the two university libraries studied do give a

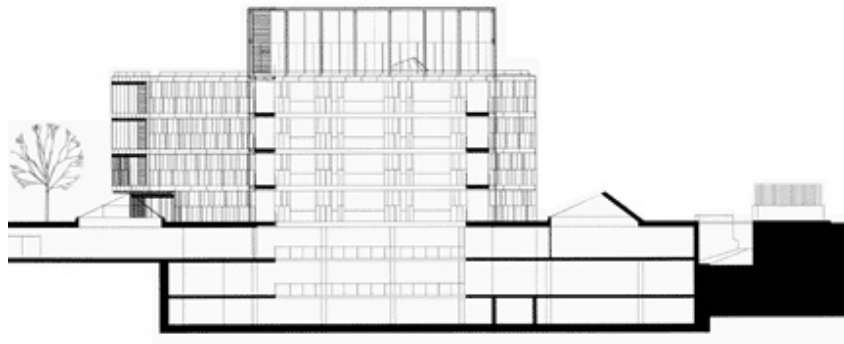


PHOTO I.I.4



PHOTO I.I.5



PHOTO I.I.6



PHOTO I.I.7

sense of calm, which despite the changing role and types of information that a library will have to use, is an important concept to keep in mind through the design process.

ANALYSIS:

This case shows that current libraries can still learn and use principles from the past. This particular case is not covered with excess technology, just enough to allow the building to work well. There are computer clusters where searches can be made and papers can be written. The scale of this particular library is almost twice the size of the current Fargo Public Library, and serves about the same amount of people. There are a number of spatial elements that this building uses that are indicative of current library design. The use of atrium cutting through areas of the structure to allow for more natural light to be brought into the interior of the building works well. The main circulation space in 1.1.6 is lit very well. In this building the stacks are placed on either side of an atrium space that cuts through the building, this can be seen in photo 1.1.6 and 1.1.10. This would be a nice feature, expect from what can be seen in

photo 1.1.7 we can see the use of glass and direct illumination. This case shows that a traditional library can be very good architecture. It shows that even though it did not dip into the current theories of the changing roles of libraries, that it, as a design, was responsive to the climate, and to the functions and context of which the library was to be built.

This case did not change the typology because it chose not to pursue the current trends in the typology. However as mentioned before, it does reinforce the need for clam feeling spaces in a library no matter the type of data that is being transmitted.



PHOTO 1.1.8



PHOTO 1.1.9



PHOTO 1.1.10



PHOTO 1.1.11

DELFT UNIVERSITY OF TECHNOLOGY LIBRARY

LOCATION: DELFT UNIVERSITY- THE NETHERLANDS

SIZE: 49,200 SQ. FT.

ARCHITECT: MECANOO DESIGN GROUP

SUMMARY:

The campus of Delft University in the Netherlands. The major program elements were the need of a new library, as well as green space that allow professors and students alike to meet informally. It is approximately 49,200 square feet and 6 stories high at its tallest section. The most stunning feature of this structure is its 'sod' roof.

RESEARCH FINDINGS:

The climate of the Netherlands is temperate (Worldtravels, 2005). It is a coastal country and has a northern marine climate. Its summers are cool and its winters are mild. It receives on average 2.72 inches of rainfall a month and temperature ranges of 30 to 60 degrees Fahrenheit. The Netherlands are known for creative solutions to climatic issues and the Delft University Library is no different. For all intensive purposes the roof is a 'sod' roofing solution. Soil is known for its insulating as well as its soundproofing and absorbing qualities. Because

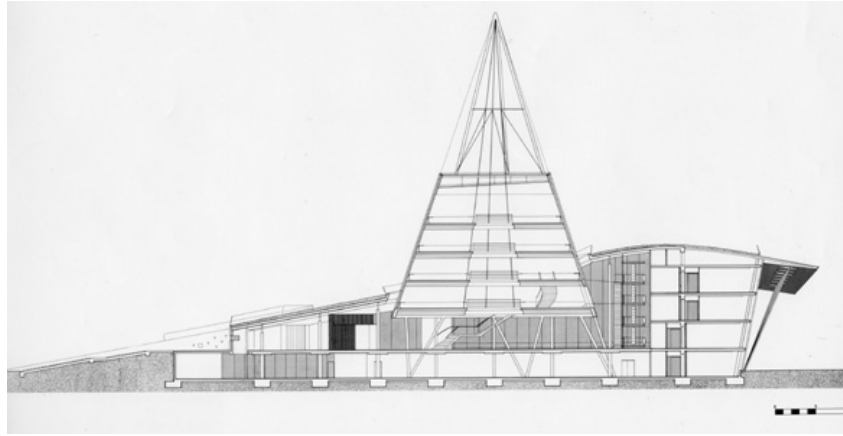


PHOTO 1.2.1



PHOTO 1.2.2



PHOTO 1.2.3



PHOTO 1.2.4

of the 'sod' roof, the building is less susceptible to temperature variances of the course of the year. The natural evaporation of rainwater in the summer provides natural cooling. To cut down on mechanical needs the building utilizes cold storage (Mecanoo, 2005).

Mecanoo Architects realized that libraries today are not serviced by books, but by computers, so in response to this they keep most of the books in the basement in a temperature and humidity controlled store-room. The books can then be requested and retrieved via the library staff. 80,000 of the most recent publications are kept above ground, in a steel frame, suspended book case. Out of 1000 study spaces, 300 hundred of them are equipped with computer terminals. Staff offices are planned at the perimeter of the building, rising to five stories at the southeast corner. The east wing is designed as a double loaded corridor with support facilities on the dark interior side and offices along the glazed outer edge. A book shop and a coffee shop also activate the library socially.

RESEARCH FINDINGS:

This case study shares a number of traits with the other cases studied. For example, Mecanoo looked at the changing role of the library. It chose to combine the 'old' forms of knowledge with the 'new.' Like many other 'new' libraries it combines both the electronic realm and the tangible realm. It keeps in tradition of 'still' space vs. some new library/media centers that use active space. This building incorporates features that allow it to succeed as a well designed building. The size of the library is around the size of the Fargo Public Library, and services around the same amount of people that live down town. The sod roof acts a sound and thermal insulator in the interior and a sound and thermal barrier on the out side. Because of the weather conditions in the Netherlands, the sod acts as a thermal block during the summer days and radiates the heat inward at night. During the winter the sod roof keeps out the cold of the winter. In photo 1.2.12 the south end has a sun shade device extending out from the sod (also can be seen in photo 1.2.8) and also



PHOTO 1.2.5



PHOTO 1.2.6



PHOTO 1.2.7



PHOTO 1.2.8

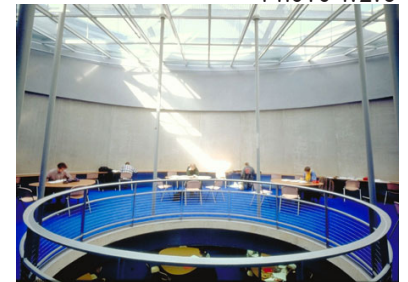


PHOTO 1.2.9



PHOTO 1.2.10

the trees which as a sun shade device in the summer and allows the low angles sun to enter the building in the winter when the leaves turn. The Library use a cone that pierces that roof of the library allowing natural light to spill in from all angles with do direct glare. The cone can be see in photo 1.2.8 and photo 1.2.9 shows the light that is brought in from the cone. This cone also acts a visual center and identifier for the users. Study areas are placed around the perimeter of the cone allowing as much natural light for people studying. The stacks and other services are located away from the cone using the cone as a center for piece.

In my opinion the concept underlying this structure was the integration of the 'new' and the 'old.' This concept does not only seep into the wall of books along side the computer terminals but also in the structure itself. The structural engineering involved with the support of a 'sod' roof which is notoriously heavy shows the 'new' side of technology. But by using earth as a roofing material, and outside activating space is respect and

acknowledgment of the 'old.' This library also incorporates the blending of public and private spaces under one roof. By placing a book store and coffee shop under its roof is creates a public space, but on the floors above it gives room to almost 750 private spots. Thus continuing the notion of a dualistic approach to building, man, and society. The library also recognized the 'out of sight out of mind' concept. I think personally it new that if they placed all books in a protective environment away from the publics view, the public would forget about them. This is why, I believe, they incorporated the wall of books to remind people that a library still contains books.



PHOTO 1.2.12



PHOTO 1.2.13



PHOTO 1.2.14

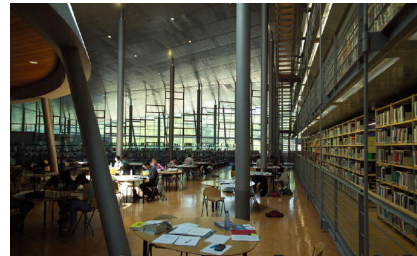


PHOTO 1.2.15

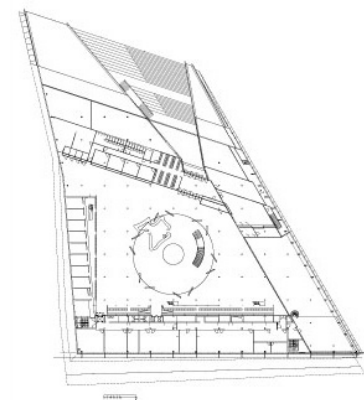


PHOTO 1.2.12

SEATTLE PUBLIC LIBRARY

LOCATION: 1000 FOURTH AVE. SEATTLE, WASHINGTON

SIZE: 362,987 SQ FT.

ARCHITECT: OMA

SUMMARY:

The distinguishing characteristics of this building is its unusual shape and its size. The skin or 'membrane' of this building is also unique in the fact that it is composed of primarily a glass facade and aluminum skeleton which essentially holds the building up and allows for the floor plates to be of different size and shape regardless of the level that we are positioned on. The major program elements were the new library, as well as public spaces and small business spaces. It is 362,987 sq. ft along with another 49,000 sq. ft for underground parking and 11 levels. These 11 floors house particular functions of the library.

Floor 11: The Headquarters

Floor 10: Reading Room

Floor 9: Maps, genealogy,
Bios (Book Spiral)

Floor 8: Art, Literature,
Music (Book Spiral)

Floor 7: Magazines, News
papers (Book Spiral)

Floor 6: Government Pub-
lications (Book
Spiral)

Floor 5: The Mixing chamber

Floor 4: Meeting Rooms

Floor 3: Living Room

Floor 2: Staff Room

Floor 1: Children's area, Lan-
guage Center, and
Auditorium

The four spiral floors allow for growth of the libraries collection, which currently houses 500,000 titles, to be able to house 1.45 million books with out the expansion of the building its self. The mixing room is the level where people can go if they have general questions or need help with detailed research. Level Three is where the coffee shop and small eateries are placed, and where people can go and relax (Seattle Public Library, 2005).

RESEARCH FINDINGS:

This environment in itself is a form of knowledge transmittal that libraries should use more of. Also, the design of floor plates allows for future expansion of the stacks with out the encroachment into the spaces of the public realm with in the library. The Climate of Seattle is cool, damp, rainy and



PHOTO 1.3.1



PHOTO 1.3.2



PHOTO 1.3.3

an over abundance of overcast skies. It was a North Western Coastal City, so the summers are cool and the winters are mild. Seattle's temperature ranges on average from 40-70 F with an average rainfall of 38 inches per year. Because of this, the Seattle Public Library houses a 40,000 gallon rain water retention area, which supplies all vegetation with water for irrigation. The library also sports waterless urinals to help conserve water. Seattle's skies are usually overcast so form allows sun to enter given areas on one side of the building, while its form acts as a sun shade device on the other side (ArchSpace, 2005).

The conceptual underpinnings of this case in my opinion, is the concept of form following function. The library is firstly performance based with everything else following.

ANALYSIS:

The Seattle Public Library was built not only as the new central library, but also as a civic icon and a functional, user-friendly building featuring comprehensive services and a mix of formal and informal spaces.

The Seattle Public Library has some common features of other libraries from around the world. As well as some uncommon similarities with other studies of this typology, specifically in the United States. The global commonalities are the integration of the old form of knowledge, that being books and the new form of knowledge that being the computer. The Seattle library has over 400 public computers and access to over 50 databases. The technology is mixed with the other public spaces, thus reinforcing the public spaces as public and the private reading rooms, located near the top of the building, away from the 'noise' from the lower levels, reinforce the separation of public and private spaces. This separation also continues in the tradition of a dualistic approach. The uncommon characteristics are, well, lets face, this building is huge. Its size puts small office complexes to shame. In the United States the size and scope of city centered libraries are become large and large. Other libraries such as the Salt Lake City Library are also large in size and scope. This is not just an American

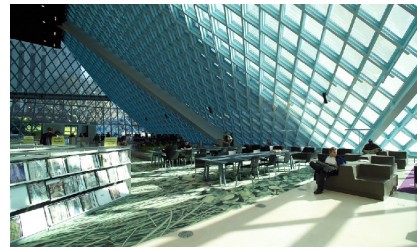


PHOTO 1.3.4



PHOTO 1.3.5



PHOTO 1.3.6



PHOTO 1.3.7



PHOTO 1.3.8

phenomenon but seems to be more prevalent in the United States in the last ten years or so. The placement of the reading rooms on the upper levels allow them to remain quite spots no matter what time of the day it is. The top level reading rooms and offices also offer a birds eye view of Seattle and ocean. The spatial elements of the building work to a certain extent. The place of the reading rooms is relevant and it works. The auditorium and language centers on the first floor are also well placed because of the traffic that they receive both during and after library hours. However the staff and the administrative floor seems to be to far from each other. The spiral book case has its pros and cons as well. Though the ramps are good ideas for handicapped individuals, because of the ramps you are forced to either go to the top or stay at the bottom when you want to find a place to read. Also most of the computers that search the titles of the books are located on the reading level or the living room level. Whether it be because of the size or the concept of the living room on the third floor I am not sure, but the building its self makes almost no attempt at opening

itself up to the pubic. The glass walls come straight to the ground and do not attempt to create a entry portico that people could enter by. Instead OMA use angular glass covered walkways and minimal landscaping.

CONCLUSION:

The contribution to the theoretical premise is in the example that building with function and then form in a library setting can be accomplished and work well.

The over all premise however, that libraries for the future need to become an integrated form of community, books, and other forms of knowledge is left unchanged, even though, this library did not go as far with the concept as buildings such as the Sendai Mediathque, it still addressed the issue.



PHOTO 1.3.9



PHOTO 1.3.10

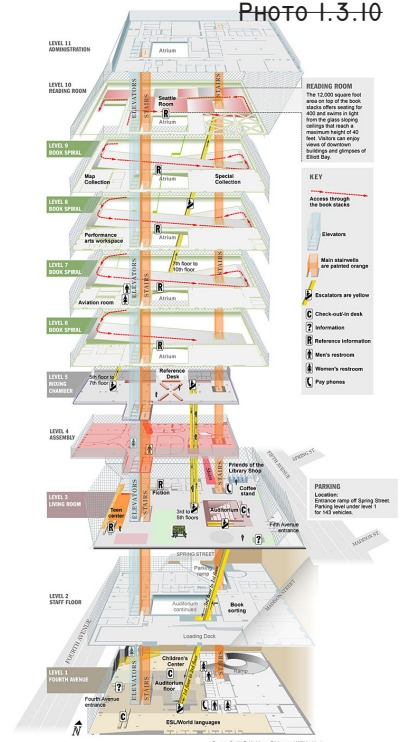


PHOTO 1.3.11

SALT LAKE CITY PUBLIC LIBRARY

LOCATION: SALT LAKE CITY- UTAH

SIZE: 240,000 SQ FT.

ARCHITECT: MOSHE SAFDIE AND ASSOCIATES

SUMMARY:

The distinguishing characteristics of this particular typology study are the five-story, triangular-shaped main building, that houses the stacks of the library, the adjacent rectangular administration facility and a glass-enclosed 'Urban Room' with public piazza, which flow into each other. Other distinguishing characteristics of this structure include a crescent shaped element that allows visitors access to a roof top garden, as well as the library's reading rooms. This sweeping crescent "wing" also acts as an element that welcomes the city.

The program elements for this library, called for the structure to house Salt Lake City's 500,000 book collection, with room for expansion, as well as technology clusters, and public spaces that acted as a focal point for the patrons and the city (Salt Lake City Public Library, 2005).

RESEARCH FINDINGS:

This particular library has components common with other libraries studied, either in

the academic setting or in the public realm. For instance, the libraries studied, all built circa 2000, are aware of the changing role of the library, and its perception by the public. This awareness can be seen in the various ways the architects try to solve, or address this issue. In the case of the Salt Lake City Public Library, it chose to embrace the community by designing a urban or public space which was an inviting space regardless of whether or not you were going into the library. Other libraries have tried to do the same. The Seattle Public Library, for example created spaces such as the "living room" and language centers on the first and third floor. The Delft University of Technology library also achieved this by creating a student and teacher commons both in the building and on top of the building in which people could interact.

Some aspects of this design that stand out by themselves are the scope and scale of the acceptance of the public realm



PHOTO 1.4.1



PHOTO 1.4.2



PHOTO 1.4.3

as well as the physical acceptance of its crescent wing. This ‘wing’ and its flowing movement to the library act as a pedestrian funnel. Libraries such as the Seattle public library do this in close proximity to its entrances as covered walkways, not actual public squares. Other difference is in its design is the library has an over all composition, of form and function both being equal components in the design, where projects like the Seattle public library, used the concept that function yields form.

This building responds to its site in a number of various ways. First, as discussed before, this building responds to its public, through the use of an open court yard, and covered public space the building allows the community to enjoy a building as a community. In regards to the climatic concerns, Salt Lake City has a yearly average temperature of 52 degrees Fahrenheit, and receives only 16 inches of rain on a yearly average, as well as having two thirds of their year with clear or partly cloudy skies. This library utilizes the fair climate in Salt Lake City by using plenty of natural light to illuminate the interiors of the library via curtain walls and sky

lights. The curtain walls, sky lights and the crescent shaped wing all allow for shade patterns on the street scape. The only concerns are with the heating of the public space in the winter. The Salt Lake City library has experienced some growing pains however. Because of the nature of the public space, Salt Lake Cities homeless population has been using the building for its day time shelter as. Also, the public space, for some pedestrians, has become too loud, although this space was designed to be a “loud” space. To solve these problems on both fronts, the library has started a campaign promoting civility and respect for patrons using the library.

The library, by doing so, becomes a community center as well as a source of civic pride. It incorporates technology in the normal sense of community computers. In my opinion it is a perfect example of the current state of the computer and how it can relate to both the public and private sectors of a community.

The conceptual underpinning of this particular case is the integration of the community



PHOTO I.4.5



PHOTO I.4.6

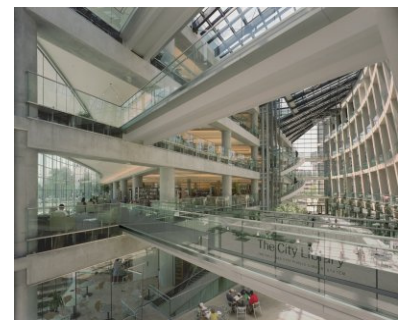


PHOTO I.4.7

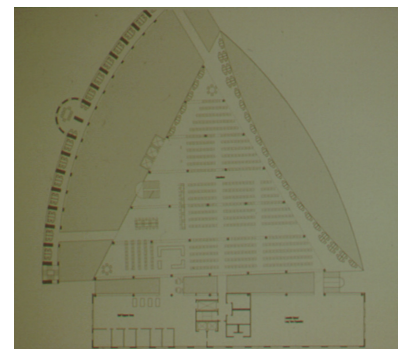


PHOTO I.4.8



PHOTO I.4.9

back into a function supported by the library.

ANALYSIS:

This case shows that not only is integrating the public back into the concept of the library viable, but that it is successful. With the attendance numbers of the library still strong, the Salt Lake City Library shows that buildings can still be a source of civic pride. This building also reflects the dialectic forces in not only in man himself, but in how that man carries about his life, through the constant interaction of the community and his constant battle between his private side and his public side. The building responds well to the public who use it. Through its design it allows people to feel like they can enter the library. The use of the public square provides a feeling of community to the library patrons. Though it has been slightly criticized for its noise levels, especially with in the public square, the administrators are not concerned because that wing was built for that purpose. The designer and the administrators realized that sound and verbal communication is another form of

learning, and they wanted their library to be open all forms of information. The spatial relationship to the city and the local community works well. The spatial organization with in the structure works as well. The open public space extends five stores and separates the crescent shaped wing from the triangular shaped collections area. The public open space is visible from every level of the collections. The building responds to sight in both whether related issues and view issues. Because of the glass facades on many of its surfaces, it allows its patrons to view not only the city, but the distant mountains as well. And with the local climate the windows have the highest rating available to shield the book and the people inside from heat cause by direct sunlight as well as glare. Though 100,000 sq ft less than Seattle library it not only serves its purpose but fits its surroundings.

CONCLUSION:

The contribution that this building has on the understanding and the metamorphosis of the current typology of a library is that the public

or “urban” part of the city can be included and integrated when designing a library. It shows that the very catalyst for knowledge, that being society should not be forgotten as it has been in the past.

The Theoretical Premise is left relatively unscathed as far as the premise that a library should include the community that it caters to.



PHOTO 1.4.10



PHOTO 1.4.11

SENDAI MEDIATHQUE

LOCATION: SENDAI-SHI, JAPAN
SIZE: 26,900 SQ FT.
ARCHITECT: TOYO ITO

THE SUMMARY:

The distinguishing elements of this particular design are the 7 “floating” floors, which can be seen in 1.5.2 as well as the almost complete transparency of the entire building. Another important element of this design are the 13 “core” columns, made up of structural steel tubes, or lattice columns that puncture and hold each of the floors to it, thus creating the illusion that the floor slabs float.

The program elements started as plans for a multifunctional facility comprised of a library, gallery, and visual media center that also contained services to aid the sight-and hearing-impaired. Subsequently, plans changed so that instead of simply being a “mixed-use” facility, it was intended to encompass a larger realm of functions that would allow the facility to operate as a unified “Mediatheque” with common goals to respond to a continuously changing information environment and users’ diverse needs. The Sendai Mediatheque will gather, preserve, exhibit, and present various

forms of media without being bound to form or type. This public facility for the 21st century will, through its various functions and services, be able to support the cultural and educational activities of its users.

RESEARCH FINDINGS:

This case does have some characteristics like the other cases. For example, it parallels closely to the other case studies by creating a structure that transmitted knowledge in any form to various people, including the blind and deaf. Another way in which this building compares to other “libraries” is that it uses technology to convey some forms of knowledge (Galinsky, 2005).

However, because this “library” is located in another part of the world, with a different culture base of people, and thus a different cultural norm and expectation, we do see differences in this design to others like it. For example the Sendai Mediatheque is a public building, serving the



PHOTO 1.5.1



PHOTO 1.5.2



PHOTO 1.5.3



PHOTO 1.5.4



PHOTO 1.5.6

public with its choice of transference of knowledge. The “urban” participation needed in the United States is not needed here. Even in OMA’s Seattle Public Library which is devoid of massive public entry systems like that of the Salt Lake City Public Library, has covered walkways and entry sequences to get people to participate with the building. The Sendai-Mediatheque does not need this system of complex entry sequences for its people to enter the building. Thus the over all form is changed from what it would be if it were in the United States. This shows the cultural differences that must be taken into account in various building forms in various building locations. Another difference that the Sendai-Mediatheque brings vs. it’s contemporaries in the United States is the ability to allow the program of the building change, the ability to allow the information within to change and/or adapt, and the focus on different methods of data that people use in every day life. Japan is an island, in the North East hemisphere. Thus they experience cooler temperatures, rain, and over cast skies through out the year. Day-



PHOTO 1.5.7



PHOTO 1.5.8



PHOTO 1.5.9



PHOTO 1.5.10

light is an important factor. By creating the external skin out of glass. Toyo Ito allowed the building to receive as much natural day light as it needed or wanted. There are also integrated blinds that can be lowered or raised by the library staff or the user.

ANALYSIS:

This building is very small in terms of other of the libraries that have been looked at. But it fits its context and its surroundings very well. The spatial arrangements are hard to analyze because there were really no arrangements to speak of. The floors were kept open to allow the building to change and adapt as different forms of information were decided to be presented there. The floors act as reading rooms, children's work areas, audio video rooms, and art display floors. This building does allow for user control of the allowance of direct illumination, but is lack in environmental control features.

This building shows that even though different cultures may influence different design considerations and needs, that the over all concept of the creation of buildings that transmit

knowledge in any form is a current need. This case also shows the imagination structural systems that are not only vital the longevity of the building but to the essence of the building and concept itself. This building concentrates on technology both in information kept within its shell as well as displaying information through its form.

The concept of this building in my opinion is the awareness that information, can and is transmitted in various forms. The building is in essence a book, provoking thought, curiosity and freedom. This form and the data stored within its walls embody knowledge by being both still and active at the same time.

CONCLUSION:

This case sheds light on the important factor of designing for the users of the building. It also it helps push the current acceptance of what a library is, what a library does and how a library functions. The theoretical premise is left relatively untouched, but reinforced.

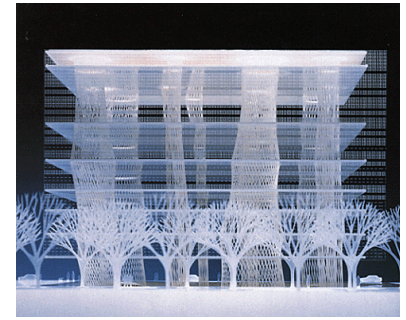


PHOTO I.5.11



PHOTO I.5.12



PHOTO I.5.13



PHOTO I.5.14

BRANDENBURG UNIVERSITY OF TECHNOLOGY (BTU)

LOCATION: BRANDENBURG- GERMANY
SIZE: 137,362 SQ FT.
ARCHITECT: HERZOG AND DE MEURON

THE SUMMARY:

The distinguishing characteristics of this building, is its opaqueness, shape and floor plate placement. The buildings screen facade consists of layered texts of different languages from around the world, superimposed over each other until the actually text is undefinable but the idea that the façade contains words and letters is still visible. Behind this screen is glass, which at night, is lit and up appears opaque. The shape is generated by the functions of the building, and the floor plates are able to be peeled back from the facade to create interesting spaces inside the exterior skin. Other important or interesting elements were the two spiraling staircases. Program elements consisted of the need of a new building to house its current collections, as well as a new landmark in the surrounding urban environment.

RESEARCH FINDINGS:

This case has similarities with other cases of this typology be being a storage facility for

knowledge of all forms, as well as integrating various forms of technology such as computers. This case does have some differences of the other cases studied, such as the shape, and the facade. The Cottbus Library responds to it surroundings and its environment in a number of unique ways. For example, the screen facade and the glass facade underneath it provide more than adequate light into the interior of the building. The vertical elements of the building mimic the tall slender trees around the site, and the shape and lighting are stark contrasts to the concrete square buildings of the university built shortly after the fall of the Berlin wall (Architecture + Urbanism, 2005).

The conceptual underpinnings of this case is, in my opinion is a premise of re-centering the campus, and at the same time creating a functional multidisciplinary library.

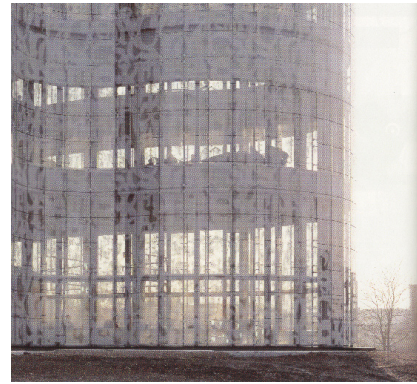


PHOTO 1.6.1

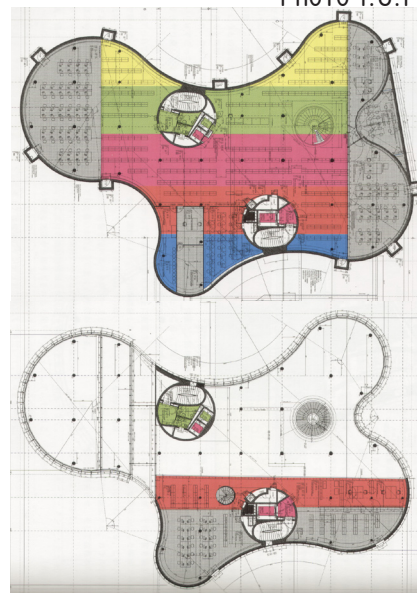


PHOTO 1.6.2

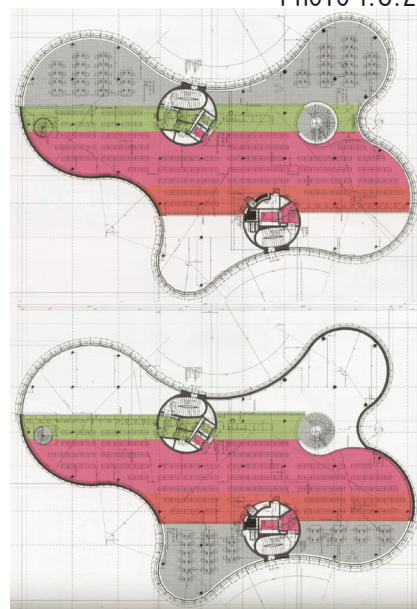


PHOTO 1.6.3

ANALYSIS:

The study of the Cottbus Library shows the studied typology becoming a landmark for a community or a college campus. This case, like the Seattle Public Library and the Salt Lake City library shows that the library can become a source of tourism revenue, a piece of civic pride, or the new landmark building for a college campus, and that these 'functions' can be accomplished by a typology that is generally known as quiet and reserved. In comparison with the Fargo public library, it is about 2/3 larger. This particular library does not have to deal with a noise pollution problem because it is on a college campus, and far enough away from the producers of noise not to be bothered. The size and scope of this library are, considering its functions, large. It provides reading rooms on every floor. While doing this they peel back the floor plates and from the wall and create atrium like spaces. This is done in on different floors and in different areas of the building. The only concern with that is the noise pollution carrying from one floor to another. You can see in Figure 1.6.6 that the stacks line the wall on particular floors. The functions of the rooms

are essentially color coded. Brighter colored rooms are used for searching, while cool colored rooms are used for reading. Public spaces like the coffee shop are doused in bright colors, thus furthering the color scheme. The two spiral stair cases that are the means of access to the various floors are brightly colored as well, creating a visual link for all floors. The concept of peeling the floor plate back from the skin of the building is interesting, but given the materials that they use, concrete, glass and more concrete, the acoustical properties of the space may cause some near echo conditions. The color schemes in the reading rooms, where grays, whites and natural light, give the rooms an almost angelic quality, but the bright colors are distracting and loud. The architects said that the shape arose from the response to the site, specifically from the trees on the outskirts of the campus. However the distance from these trees is considerable and the correlation, to me at least, gets lost.

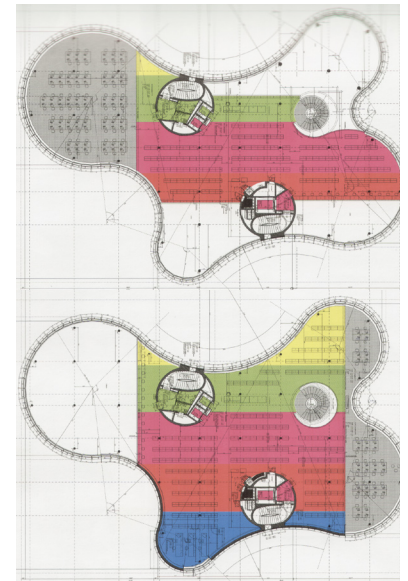


PHOTO 1.6.4

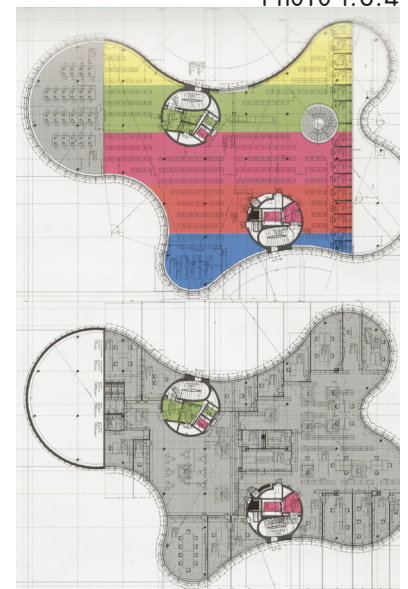


PHOTO 1.6.5



PHOTO 1.6.6

PIONEER COURTHOUSE SQUARE

LOCATION: 612 S.W. SIXTH AVENUE, PORTLAND, OREGON

SIZE:

ARCHITECT:

SUMMARY:

The Pioneer Courthouse Square also known as ‘Portland’s Living Room’ is located in the heart of heart of Portland Oregon. The building that shares its name with the space is the Portland Courthouse, a typology not usually known for its public squares. But what makes the ‘Living Room’ unique is the way it combines public art, amenities such as small kiosks, and coffee shops and due to its central location within the city, a perfect place for people to gather and use. The spaces include coffee shops, food vendors, and the information center for the Portland regional transit.

The space includes the old modern issues used in well used public squares, such as flowers, trees, walls, and ample stairs that do double duty as seating areas. This square was developed recently as part of a new generation of public squares that are no longer just passive green spaces, but rather they actually have management to ensure activities

and the ongoing effectiveness of the square. Public debates, town meetings, community fund raisers and other events are held there to help keep the people coming back and the to help keep the community involved with its future.

History & Background

The creation of this much-loved public space in downtown Portland cannot be separated from the fundamental role played by Tri-Met, the city’s transit agency. Planned concurrently with the new Metropolitan Area Express (MAX) light rail system, Pioneer Square was an idea that dated back to the 1950’s, when the site was a parking lot. Tri-Met leveraged its funding for transit stops and an information center and helped to make the Square financially possible.

With extraordinary public support, the Square was built to be “Portland’s living room,” a center for the life of the city. Funded in part by the resi-



PHOTO 1.7.1



PHOTO 1.7.2



PHOTO 1.7.3



PHOTO 1.7.4

dents of Portland, the Square has continued its tradition of citizen participation with thousands of community events held over the past decade. With the opening of the light rail system in 1986, Pioneer Courthouse Square became both the city center and the bustling hub of transit for buses and light rail, as well as the main information center for Tri-Met (Making Places, 2005).

Analysis:

The reason for studying public spaces such as urban squares is to see if there are any similarities with other squares, as well as any similarity with urban spaces that are incorporated as parts of a building, like that in Salt Lake City.

This square works on a number of different levels and reasons. Firstly, management. This public space has a group of people to ensure its public functions as well as to ensure the continued use by the public. This is where other squares have failed before. A city will have a public space but keep it as passive, only maintaining the grounds. When we look at places that are notorious for the survivability (Rockefeller Square, Central Park etc)

they work because there things going on there. Public squares have to become part of the city it relies upon. Secondly, this space works because it is a center for transportation. The buses travel along and stop at this square all day, thus ensuring a 'fresh supply' of people. The square also acts as a bus terminal information center. Lastly, this space works because it has kept in mind the urban design principles that have worked in public squares in Europe for centuries. Water features, living plants, places to sit, and objects that serve a dual purposes, like stairs as benches and water feature boundaries as benches. This public space has a lot to be compared with when looking at buildings that incorporate public areas and have them work. For example the Salt Lake City Central Library. Their public space is filled with activity as well, and for many of the same reasons. Their spaces has program directors to keep things interesting, giving the sense that every day does not hold the same thing as the day before. It to provides small business that help generate funds for upkeep and to add a sense of

activity to the space. Thirdly, like the Portland square it is an information center, connecting people with transportation, (bus stops at the library) and a connection to other forms of information.



PHOTO 1.7.5



PHOTO 1.7.6



PHOTO 1.7.7

HISTORICAL CONTEXT

HISTORICAL CONTEXT

A library is the result of a cultures evolution from the beginnings of time. A library of information can take on many different forms. A library does not have to be defined as a structure that houses books, but rather, it can be considered any form, be it building, brain, disk, circuit board or papyrus that contains a part of a cultures' knowledge. Thousands of years before the conception and erection of the Library of Alexandria 'libraries' existed in the forms of sages of tribes passing down parables and wisdom in a spoken form, and thousands of years before that, when the spoken word was not yet uttered, man would warn its offspring of dangerous berries and animals through grunts and hand motions, this to, was a form of knowledge being passed from generation to generation. A library, as we define it today, is a structure that houses books, but this concept is limited in its scope as to what a library is or how it functions. The first recorded building that housed written, and copied forms of many cultures' knowledge was the Library of Alexandria. The Library of Alexandria was created to become a meeting place for all the great minds of the world. At its height, the Library of Alexandria may have housed up to 700,000 scrolls from all corners of the globe. The library was open to all people of all civilizations, as well as containing 'lecture' halls (BBC News, May 12th, 2004) and discussion rooms. Patrons from great distances may have even lived on the grounds of the library or in proximity of it while they 'researched.' The Library of Alexandria was not only a library, but a university. Conducting the most adventurous social experiment of the time. The library took attributes from the worlds greatest civilizations, like the Greeks, the Egyptians and the Asians to create the Hellenistic Period (History Magazine, 2001).

Our present day ideals of the library stem from the Library of Alexandria, and are still present in library principles. We have books from all over the world which have been translated into our cultures language, and free knowledge for the masses of our culture and the world is still paramount. Which in itself, especially within a capitalistic economy such as the United States, is a difficult concept to have had remain as a constant. Other attributes that have been preserved is the city public library being an iconic building. The Library of Alexandria was known through out the world. The iconic stature of the library may have dissipated for centuries, but it is seeing a resurgence with libraries such as, The Seattle Public Library, The Salt Lake City Public Library and the New Library of Alexandria. This surge in iconic building may be a response to the cultures attention deficit problems as well as a response to the lack of civic pride in realms that create civic pride that as been lacking in cities.

The library of the future must become more than a building that houses books. It must become an urban meeting space, a center for technology, a learning center for that technology and other forms of information as well as a building that houses books. Libraries must become urban centers again. Reinforcing civic pride, and reestablishing urban community meeting places through which to teach tolerance and acceptance of all peoples. It must become a technology center to expose people used to the old forms of knowledge and the new. It must also teach those who do not know how to use that technology, by doing so adding more information to the web of knowledge constantly being created

by man and social interaction. With the rise of the 'New Urbanism' movements, and the complete disdain for 'the city' new urban centered libraries play a role in reentering the urban environment. Through the use of good urban design, the library its self will not only become a focal point but so to will its surroundings.

GOALS

GOALS

My goals for this thesis project are: to create a building that redefines and redevelops a current typology. To explore issues of a current typology that have not be pursued, or that have not been researched fully. Another goal of this thesis project is a continuing refinement of my own philosophy in life and architecture. Lastly, to crate a building that I personally can be proud of, as well as the professors who have taught me through my journey. Other goals are through research, a clear, concise and meaningful theoretical premise. To discover the driving force behind my designs. As well as the clean and concise refinement of a current typology, and to explore the issues that a city deals with, and to understand the growing, changing roles of the city and the people with in.

SITE ANALYSIS

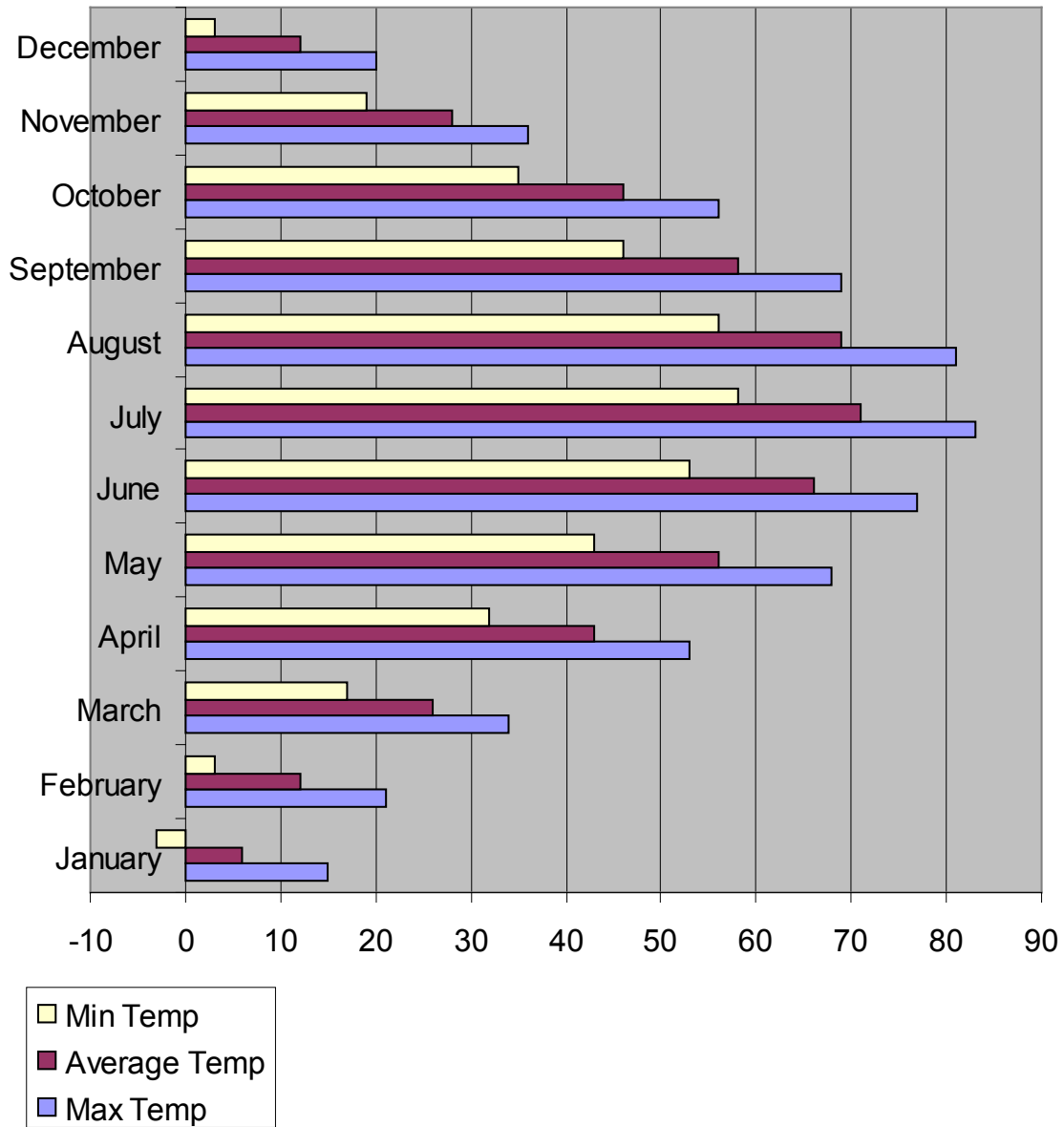
SITE ANALYSIS

SITE CHARACTER

For many people, students especially, there is a love hate relationship with Fargo. For many students Fargo is a stepping stone to something else, like an airport layover lounge you might say. There are many things that Fargo as a city, has to combat. The lack of topography is a important factor. Fargo, as far as other cities go, has no geographic places of interest. Yes we do have some of the best sunsets you could imagine, but you can travel 100 miles into the western interior of the state before you see some deviation in landform. Our river is to small for recreational uses, which then forces the population to travel to other cities for weekend excursions, thus pumping money into their city, and not the city in which they live. The last issues that Fargo has to combat is a difficult one, that being the usually older, conservative groups of residents living here. I am not saying this is bad thing, if this conservation is used in moderation, but the population of Fargo is filled with farmers, or sons and daughters of farmers who grew up on the farm. We don't deny it; most in fact, embrace it to a certain extent. We are hard working, tough, conservative people who brave some of the worst weather imaginable year in and year out. If something dose not work it is not worth our time. Beauty for us, is in a sunset, or a sunrise, a perfect moonlit night during winter where there is no wind and the snow falls so softly and quietly upon the earth it's as if all motion in the universe has stopped or the breeze rustling through a wheat field. That is our nature, that is our beauty, buildings for us need only work. This can be seen in our vernacular architecture. The city of Fargo is a city built out of this mind set. Economy, and a simple, no nonsense approach made this city rise from a flat open prairie. Everything from the street layout to the buildings in the down town section are plain. Looking down upon the city from the top of the Gardner Building you can see the old part of Fargo, consisting of the downtown are north and about ten blocks south of main are almost a perfect grid. Rectangular blocks with more length in the east-west direction, allowing for maximum sun exposure of the southern sun. Most tree growth does not start until 6th or 7th Ave. North and 4th Ave. South where Island Park begins. There are no green spaces within the downtown area. The closest thing being island park to the south or the river to the east, both of which are a considerable distance from the interior section of downtown. Most of the architecture in Fargo reflects this, its functional, purpose driven structure, beautiful only in its function. The post modern and modern movements fit Fargo and North Dakota perfectly. Most of Fargo's 'new' construction is in the from of post-modernist or modernist architecture, constructed or given a face lift to in the 1970's. Don't get me wrong, Fargo's down town is getting better as far as people actually using it goes, and there are some aspects that are almost nice, but as Fargo's diversity grows, so to should its architecture, specifically downtown. Coming out of NDSU's Downtown building almost every day I see the site that cries for some one to use the principle of residual space, which is the destruction of one urban environment for the construction of another. This site cries for its own destruction and the creation of a new form much like the phoenix. The site of the current Cinema Grill has been abandoned for almost five years now. It's an ugly run down building with an off green color scheme and ¾ of the site being taken up by a parking lot that is crumbling underneath the tires of the cars that use it. Of course the block around it is nice, but lacks any true

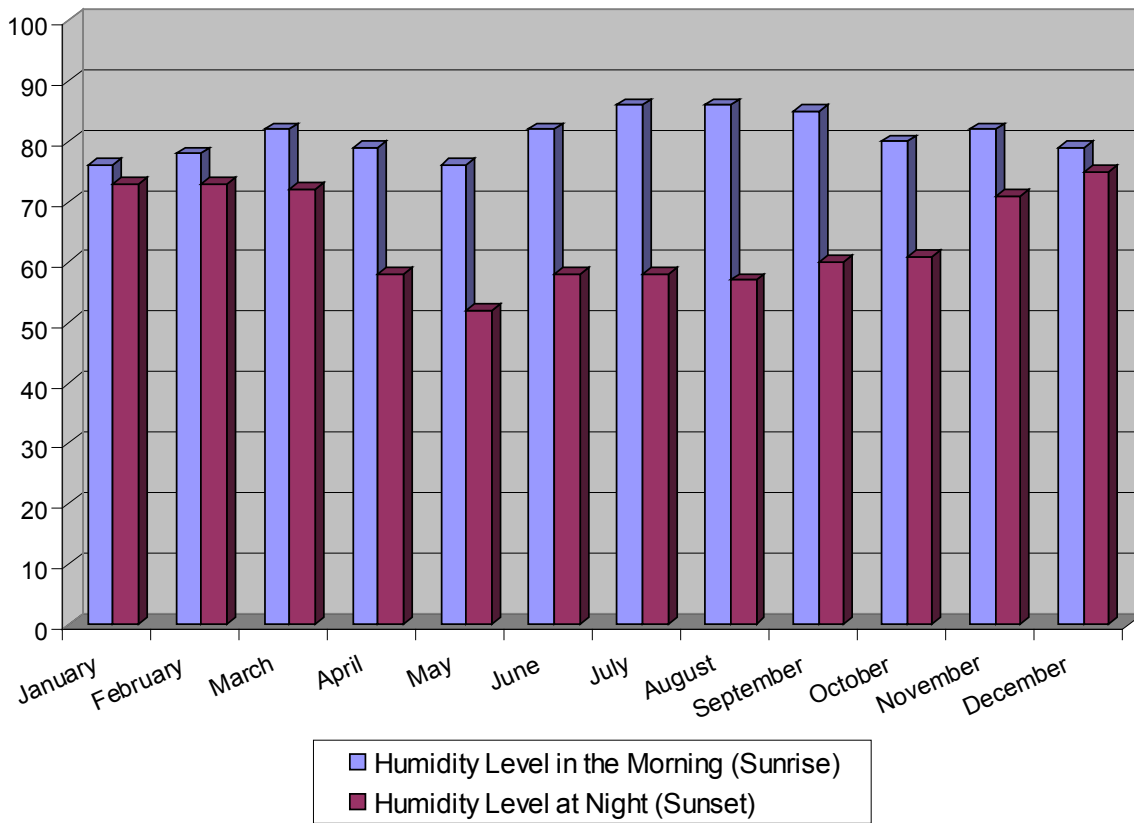
individualism. The Gardner building stands out only because of its height. North across the corner of the cinema grill is a block long row of brick 2 or 3 story tall buildings, devoid on any true character other than the singage of the store fronts. In the Northwest corner of the intersection is the court house, standing out in a state of near colorless perfection. The original building sits on the corner, while the new addition extends further west down the block, comprised of curtain walls, limestone and exposed, articulated arches. Over all, the corner to me, seemed... cold, not cold as in the briskness of the air, but cold as in the feeling you get when you have made a friend mad and he wont talk to you. In the summers, the south facing facades of the business get blasted with sun and the dead or dying boulevard trees are little help in the form of shad. The fire station that is south of the cinema grill is only 2 stories tall so the sun is beats down all day during the summer, which makes the corner feel dry. The opposite side of the intersection, where the court house and the Gardner building stand, feels better. There is shade after 12 in the afternoon that is provided by the height of the Gardner building, AND THE WIND, how can we forget the wind. Who can explain the wind that Fargo receives to those who have not felt it. Fargo sits in the middle of a 200 mile wide 300 mile long prairie. There is virtually no deviation of land form in that space. This allows the wind to gather steam, and blow into the city unhindered. The fact that the city itself creates a warm pressure bubble from the amount of people does not help, considering that there is nothing but cold pressure all around us (especially in the winter) which longs to fill the void. Because of the solar orientation (long block on the east-west axis to provide the most surface area of southern facing facades) the streets go on forever, the streets, which for all intensive purposes end in the prairie out side of the city, act as funnels for the wind, allowing it to blow through whole city, and the heart of the downtown area unimpeded. I feel static standing on this corner, if it wasn't for the traffic it would feel devoid of any life. Even the court house west of me seems ... still. Its limestone giving off the cool, unemotional, cold shoulder that limestone can sometimes give. Even though there is color all around me, the red brick and green trim of the Gardner Building, the faded green of the cinema grill, the cool gray/white limestone, the gray pavement, the boulevard trees doing there best to humanize a relatively inhuman street. Despite all this color, the site seems colorless, all the colors seems to blend into each other, creating the impression of brick, just brick, that's it. The only time this corner and its connecting streets really come alive is at night when after a rain, when the streets are wet and reflective. The neon sign reflecting in the streets, the smell of rain, to sound of water draining into Fargo's inadequate drainage system. The street seems to capture the colors and reflect them at weird angles. The Gardner building which used to be a hotel, is pierced with light as little pockets of people's individual life are temporally viewed. The courthouse's limestone seems to soak in some of the color of the street, the sound of the traffic, which during the day, just seemed to bounce off these stoic walls, calmed down and blended with the night. The hoops and hollers of a young generation forgetting its responsibilities for one night as they go to the bar, echoes through the streets and reminds you that you actually live in this city, and that city is actually alive.

CLIMATIC DATA



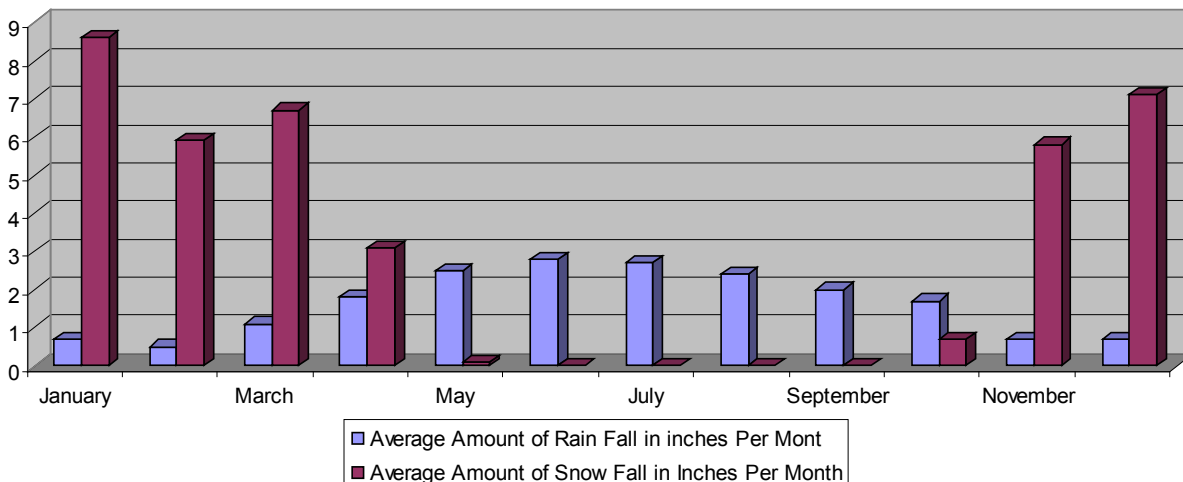
As we see in the chart, Fargo's average temperature ranges from about 72 in the summers to about 15 degrees in the winters. Fargo experiences temperature fluctuations and has average peaks of 83 degrees in the summers and -10 degrees in the winter. Fargo has is also able of experiencing large temperature fluctuations in a short amount of time. Fargo's mean temperature for the year is about 43 F as seen in the chart below.

CLIMATIC DATA - TEMPERATURE



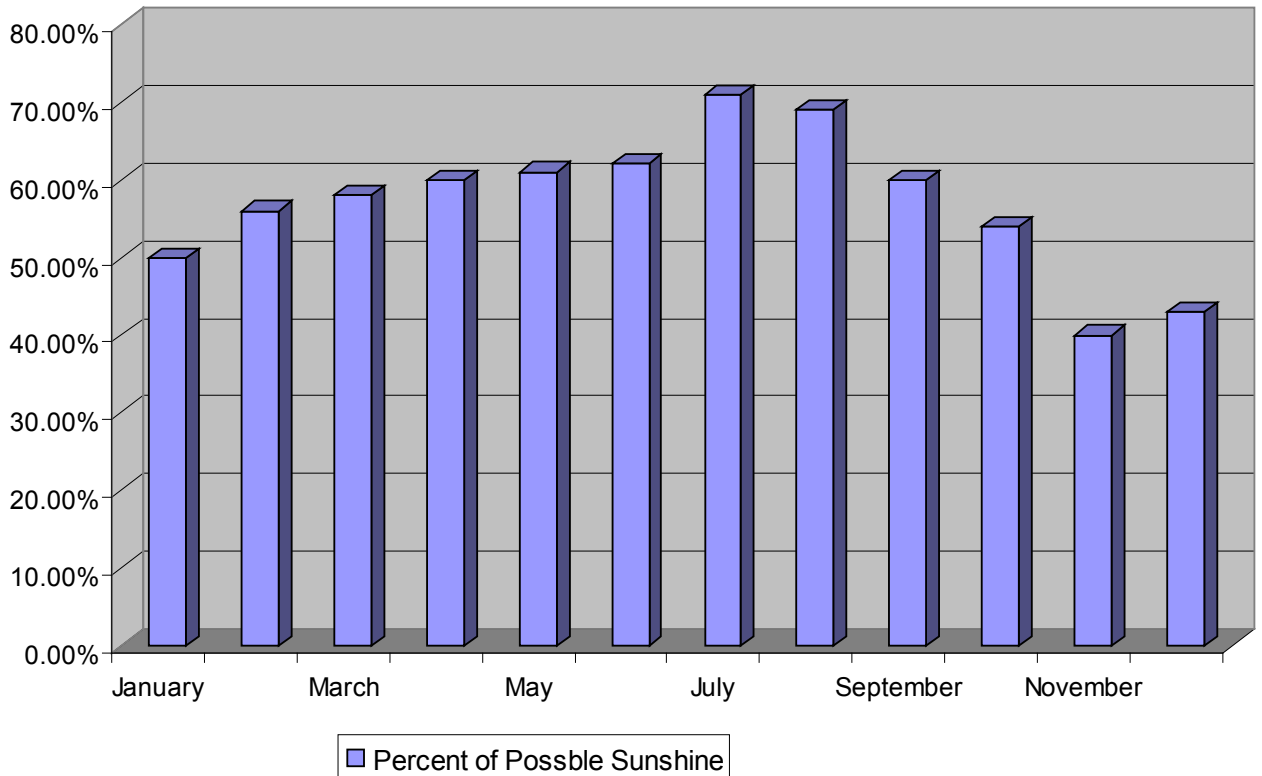
In the chart above we see the average humidity levels in the morning, being sunrise, and the average humidity levels in the night, that being sunset. As we can see, Fargo on average, has around a 60 percent relative humidity.

In the chart below we see Fargo's average amount of rain fall (in blue) in a year's time as well as the average amount of snowfall in a year, (shown in red.) The amount of precipitation that Fargo receives can be a concern given the soil type (see soil statistics). Because of poor percolation, run off, absorption, and lack of slope.

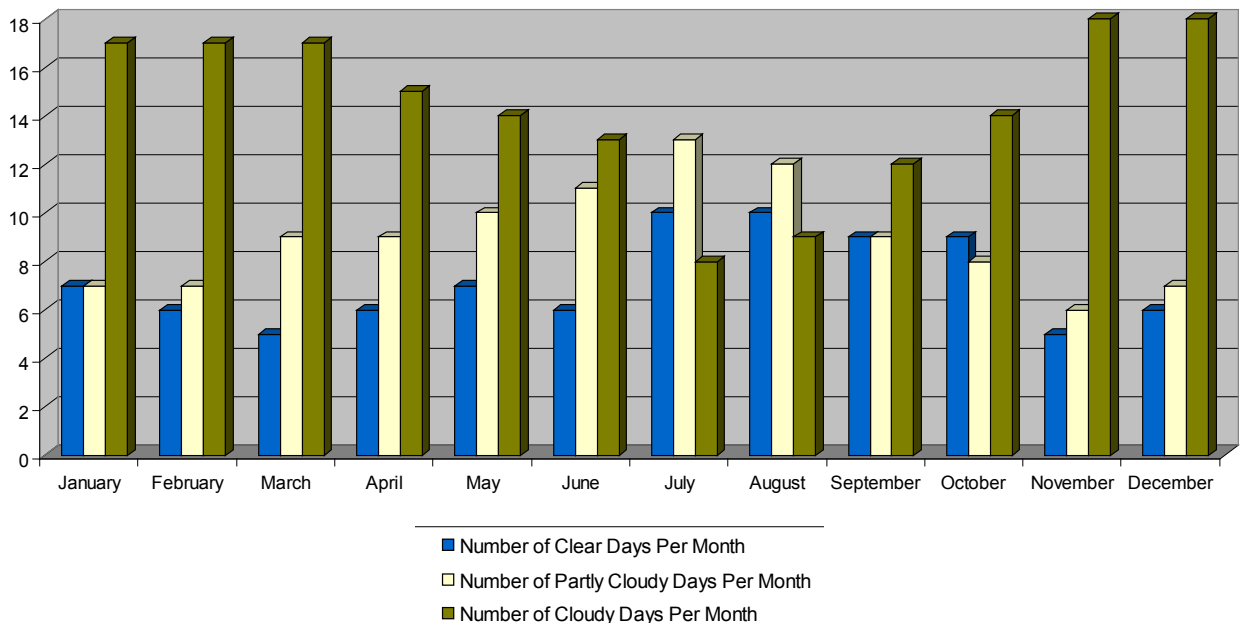


CLIMATIC DATA

Percent of Possible Sunshine



As seen above, Fargo receives between 50 and 70 percent of possible sunshine. Looking at the chart below we see why this is so. In the chart below, the blue lines represent number of clear days in a given month. The yellow bars represent the number of partially cloudy days (30 to 40 percent cloud cover). The green bars represent number of cloudy days (over 50 percent coverage) in a given month. We can see the number of partially cloudy and cloudy days out number the amount of clear days received in a given month, thus a low percentage of possible sunshine.



**Joint Frequency Distribution
Fargo, ND
October to March (1990 - 2003)**

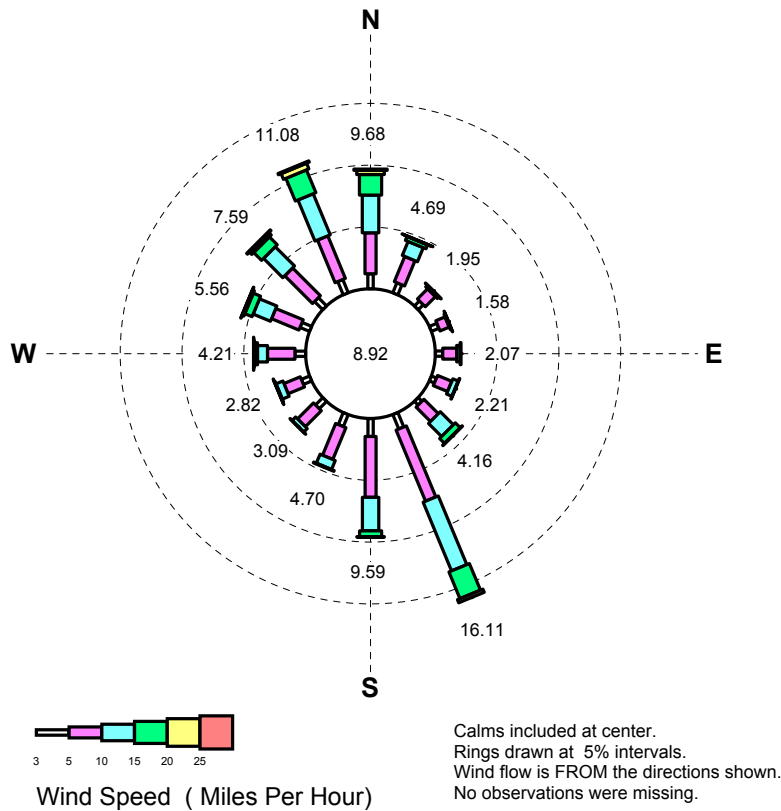


PHOTO 2.1.1

PERCENT OCCURRENCE: Wind Speed (Miles Per Hour)							PERCENT OCCURRENCE: Wind Speed (Miles Per Hour)						
DIR	LOWER BOUND OF CATEGORY						DIR	LOWER BOUND OF CATEGORY					
	3	5	10	15	20	25		3	5	10	15	20	25
N	1.22	3.31	3.06	1.66	0.34	0.10	S	1.44	4.92	2.72	0.47	0.04	0.00
NNE	0.88	2.21	1.22	0.34	0.03	0.01	SSW	1.05	2.78	0.79	0.07	0.00	0.00
NE	0.58	1.16	0.19	0.02	0.00	0.00	SW	0.83	1.83	0.41	0.03	0.00	0.00
ENE	0.66	0.81	0.10	0.01	0.00	0.00	WSW	0.72	1.43	0.60	0.06	0.01	0.00
E	0.60	1.12	0.28	0.07	0.01	0.00	W	0.86	2.22	0.81	0.27	0.03	0.01
ESE	0.44	1.25	0.47	0.05	0.00	0.00	WNW	0.84	2.39	1.52	0.64	0.14	0.04
SE	0.43	1.64	1.50	0.54	0.05	0.00	NW	0.95	3.17	2.21	0.90	0.27	0.08
SSE	1.26	6.23	6.01	2.33	0.28	0.01	NNW	1.16	3.73	3.60	1.99	0.49	0.11
TOTAL OBS = 59064 MISSING OBS = 0							CALM OBS = 5267 PERCENT CALM = 8.92						

The wind of the great plains is gaining a reputation as one of the places with a constant wind, of a relatively high velocity year round. Fargo, is no exception. With open prairie on three sides of the city the wind is a ever present factor. The wind rose above is for the months of October to march and an average of data compiled from 1990 until 2003 by the North Dakota Agricultural Weather Network. Fargo receives much of its wind from the south, south east and the northern north west. Fargo's average maximum wind speed in Miles Per Hour is 16 from the southern south east, and 11 from the northern north west. We can also see that Fargo has on an average year, a almost 9 percent ratio of calm days.

**Joint Frequency Distribution
Fargo, ND
April to September (1990 - 2003)**

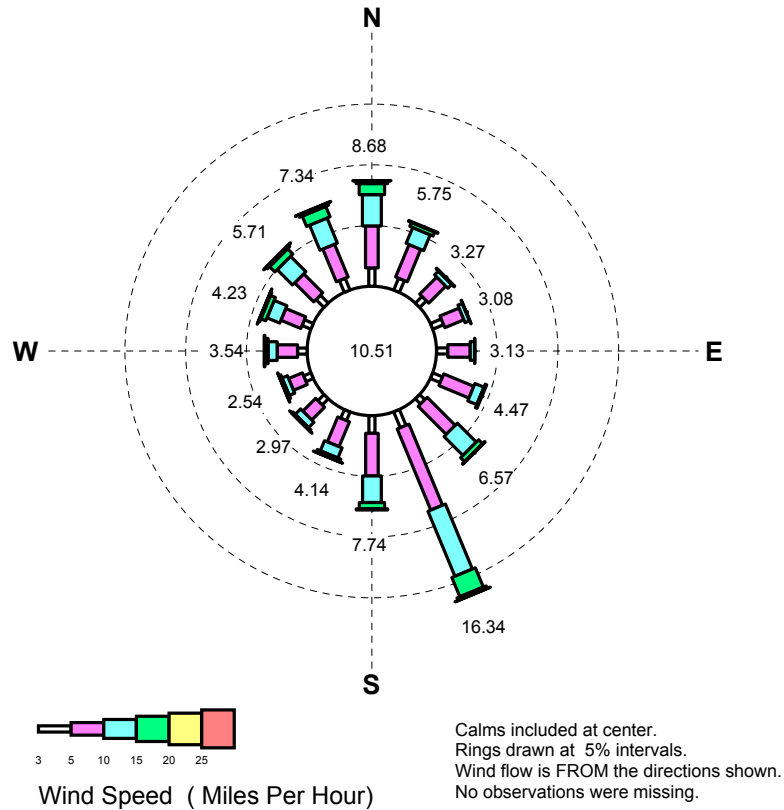


PHOTO 2.1.2

PERCENT OCCURRENCE: Wind Speed (Miles Per Hour)						
LOWER BOUND OF CATEGORY						
DIR	3	5	10	15	20	25
N	1.51	3.45	2.57	0.91	0.23	0.02
NNE	1.05	2.88	1.40	0.34	0.07	0.00
NE	0.78	1.97	0.44	0.08	0.00	0.00
ENE	0.96	1.70	0.39	0.03	0.00	0.00
E	0.92	1.84	0.35	0.02	0.00	0.00
ESE	0.86	2.67	0.80	0.13	0.00	0.00
SE	0.59	3.26	2.20	0.46	0.06	0.00
SSE	1.41	7.20	5.79	1.71	0.22	0.01
TOTAL OBS = 60936 MISSING OBS = 0						

PERCENT OCCURRENCE: Wind Speed (Miles Per Hour)						
LOWER BOUND OF CATEGORY						
DIR	3	5	10	15	20	25
S	1.44	3.51	2.18	0.52	0.09	0.00
SSW	0.77	2.22	0.89	0.24	0.02	0.00
SW	0.71	1.49	0.62	0.12	0.01	0.00
WSW	0.65	1.23	0.48	0.17	0.02	0.00
W	0.79	1.68	0.74	0.27	0.06	0.00
WNW	0.78	1.77	1.13	0.43	0.10	0.01
NW	0.92	2.21	1.80	0.61	0.15	0.02
NNW	1.06	2.91	2.23	0.92	0.19	0.03
CALM OBS = 6403 PERCENT CALM = 10.51						

We can see in the tables that in the months of April through September, the warm season, the majority of the high velocity wind comes from either the southern south east or northern areas. The summer months have a high average of calm days then does winter, and the over all velocity drops a bit in the summer. This drop between summer and winter winds could be due in part to the pressure systems that are created by a large city.

PREDOMINATE WIND PATHS & WIND VELOCITY AVERAGES

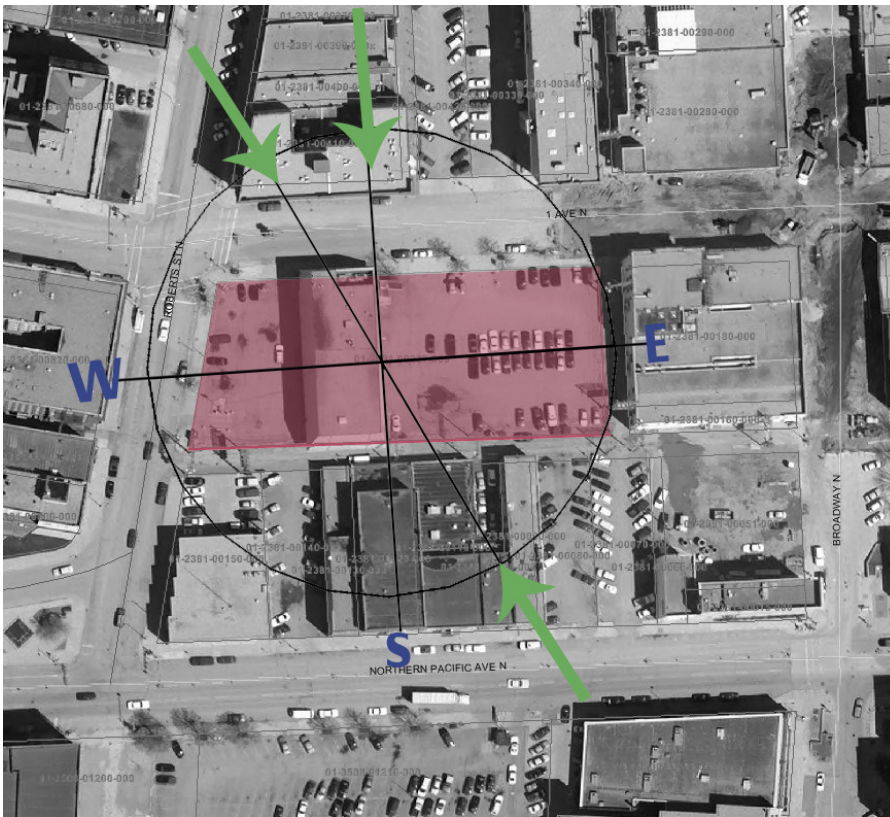
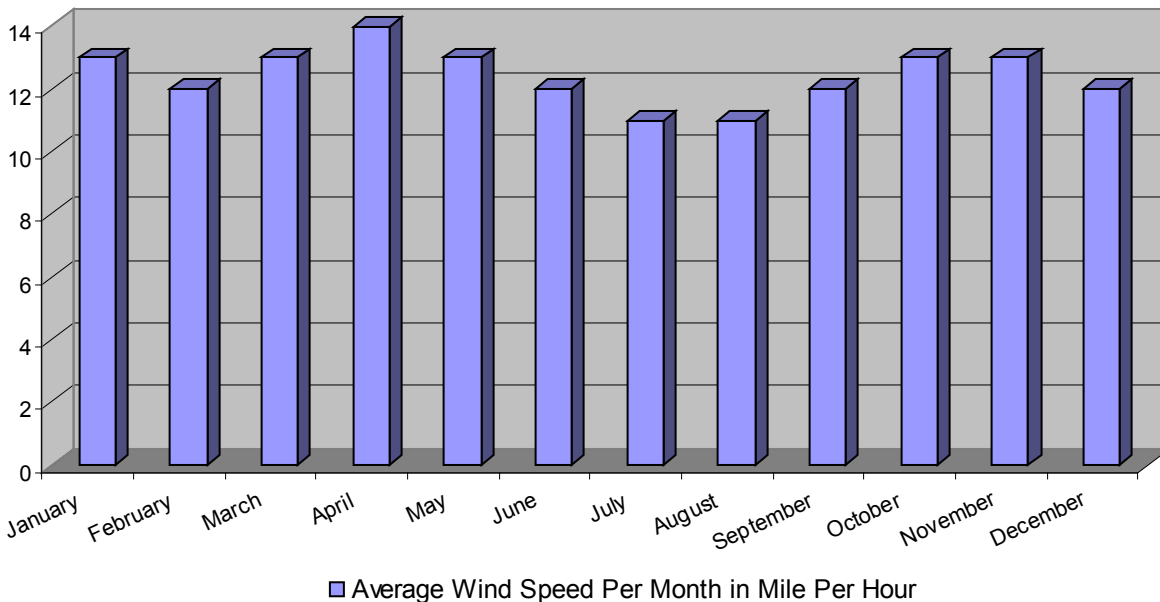


PHOTO 2.1.3

Here we can see the three primary directions that the wind blows in both the winter and the summer seasons. However we must keep in mind that on the street level these winds can come from any direction due to the streets, buildings and vegetation. From personal experience, if the wind is blowing from the north, it will use the north south running streets as funnels. The site, shown in red will be buffeted on its south west corner causing wind to run along its north facing facade and west facing facade. Below is the average wind speed in Miles Per Hour per month. As you can see, also visible in the wind rose charts above, Fargo's average wind velocity is of substance .



SLOPE

The Red River Valley was formed by the ancient Glacial Lake Agassiz around 12,000 years ago. During this time the continental glacier that covered the basin retreated northward and the glacial lake was formed. The lake eventually drained and formed what we now know as the Red River Valley, leaving in its wake a region with a soil composition of clay and silt which can suffer from liquefaction quite easily if the conditions are right. With our soils being composed of a viscous quality clay, and an actual buildable bedrock between 100 and 200 feet below, building structures that have a great load capacity such as high rises is very hard to do. However, these soil types (Bearden, Hegen, Glydon, Ulen, Fargo, Garena, Embden, and Ryan) may not have the nature to be built upon, but it is in their nature to be some of the most fertile land in the United States.

The “unnaturally” flat topography is due to the giant glaciers that slowly plowed their way through the mid west part of the country, and also due in part to the very little, or almost no geologic activity because of our distance from fault lines, volcanoes or mountain ranges. Because of our lack of geologic activity and glacial movement, the Red River Valley is one of the flattest areas in the United States.

Given this, the resulting climatic changes that happen because of slope, are not present. Additionally, the site itself is an urban site, with an existing building resting upon the ground. So the site has already been level and slope, in this context, is of no concern.

SLOPE ANALYSIS

The site itself has already been built upon. The current site houses a building and parking lot. The parking lot is filled with pot holes and places where the pavement buckled. When it rains the parking lot, both because of the bumps and pits, and because of the lack of slope keeps puddles of water on the lot. The site itself will need a considerable drainage retrofit as well as the tearing up, re-sloping, and repaving of areas that are to remain parking lots, if any.

SHADING

The building sits on the North West section of a city block. So the southern facade will not receive as much sun as possible. However, of the two buildings that are on the south west end of the site, the fire station is only two stories and will not block any sun, but the second building, a mixed use building, with retail on the bottom and living on the its other 2 stories will hinder the southern facade a bit more. Shading is a tricky business in Fargo. Given the temperature data and our cool yearly average mean temperature of 43, sun exposure is important, along with our latitude, the sun is very low in the winters. The proposed building will also shade a bit more of the northern block than is currently present. The proposed building will cast shadow onto the opposite side’s first floor business. However, these businesses already have sun shade devices up in the form of canopy’s. The construction of the proposed building will only block direct sunlight into the building during the summer months, but because of the sun’s low angle, is not an entirely bad solution.

TOPOGRAPHY AND AIR MOVEMENT

As already discussed in the wind rose and velocity tables, as well as the site narrative, the low lying valley that Fargo is in, in addition with the lack of major topography, and the fact that cities create pressure systems, makes the air movement unimpeded, picking up velocity until it enters the city. As also discussed, if the wind is blowing from the north, it will use the north south running streets as funnels, causing the wind to split at the corner of the site forcing it to flow south and east.

NOISE

As with any urban site, noise is an issue. Especially when exploring libraries. There are a number of noise producers in proximity of the site. The first producer is the downtown fire station, located directly behind the proposed site. Having observed the location for a considerable amount of time, the noise pollution cause by the fire station, is determined to be short lived and not that large of a problem. The hospital is further north east of the proposed site, and ambulances do not travel through downtown to get to the hospital, they use the north bound one way (10th St., or the south bound one way, University). The local police headquarters are also located about 10 blocks from the library, however, with a number of blocking components (trees, buildings, and distance) the sound from sirens is not that great. The second source of noise pollution comes from the surrounding streets. The south end of the block is an east bound three lane one way. To the immediate west of the site there is a two lane street, and to the direct north of the site lies a west bound three lane one way. The noise pollution created by these streets is limited to rush hours. During which the sound is a low rush or rum, as opposed to the shrill sounds of sirens. The third and worst source of sound pollution comes from the rail road tracks two blocks south of the site. On average there are 12 trains that pass per day, and every pass their whistle blows. Since there are major traffic veins stopped for the rail road, they sound their horns at a location almost directly due south of the proposed site. However, there has been a movement that is gaining ground to turn if not the city, then the downtown area into a quiet zone; this would be including trains as well.

SOILS

The soil surrounding Fargo is composed primarily of Fargo-Rayn Association, which is deep, level, poorly drained, fine textured soils. This soil stretches all the way to Mapleton almost completely unhindered, changing only in name and slope. There is a small swath of soil running through the west end of west Fargo that is composed

The Fargo-Rayn soils are comprised of glacial lacustrine sediment. They are on flats, swells, and slight depressions of glacial lake plains. These soils are primarily flat with little to no deviation. This type of soil comprises only about 3 percent of the soil types found in Cass county. The soils are about 60 % Fargo soils, 18 % Ryan soils and 22 percent minor extent soils. These Fargo-Rayn soils are comprised of silty clay. The top layer is about 10 inches of black silty clay, followed by about 12 inches of dark gray subsoil. The next layer is about 30 inches and is dark grayish silty clay. Under that is roughly 60 inches of substratum silty clay.





The Fargo soil is slowly permeable, and the rayn soil is very slowly permeable. The available water capacity is high. Run off is very slow. The seasonal high water table at a depth of 0 to 3 feet, and the rayn soil has a water table at depth of 0 to 1 foot. Because the surface layer is silty clay, tilth generally is poor. The dense subsill of the rayn soil restricts penetration of plant roots.

These soils are poorly suited to use as building sties. Because of their high clay content, they tend to “run” when over saturated with water. Shrinking and swelling are also a concern because of the water content usually found in the soil. The land classification of these soils is III.

Fargo soil can not be used as road fill, because of its low strength, wetness, and its shrink/swell properties. It can not be used as sand because of its excess finness, and can not be used as top soil because of its clay properties and its wetness. Fargo soils percolate slowly, are susceptible to frost action, and is hard to pack. The correct scientific name is Fargo - find, montomorillonitic, frigid vertic Hapaquoll. Water features under Fargo, such as aquifers and underground wells are not located in the proximity of Fargo. Fargo soil has a permeability factor of .06-.2 inches per hour for each level, ie. top soil, subsoil, and substratum layers. It has a available water capacity of .15-.18 In/in. Fargo soil has a high potential for frost action, and uncoated steel has a high potential for corrosion, concrete does not. Since this is an urban site, already built upon, it is considering an urban till, meaning that its soils have been mixed up and possibly added to. Because of the glacier that plowed its way through what is now north Dakota, it took vast amounts of strong soil with it, leaving in its place when it with drew 100-200 feet of clayey soil. For tall buildings who need a firm foundation, piers have to be sunk 150-200 feet to hit a stable glacial till surface.

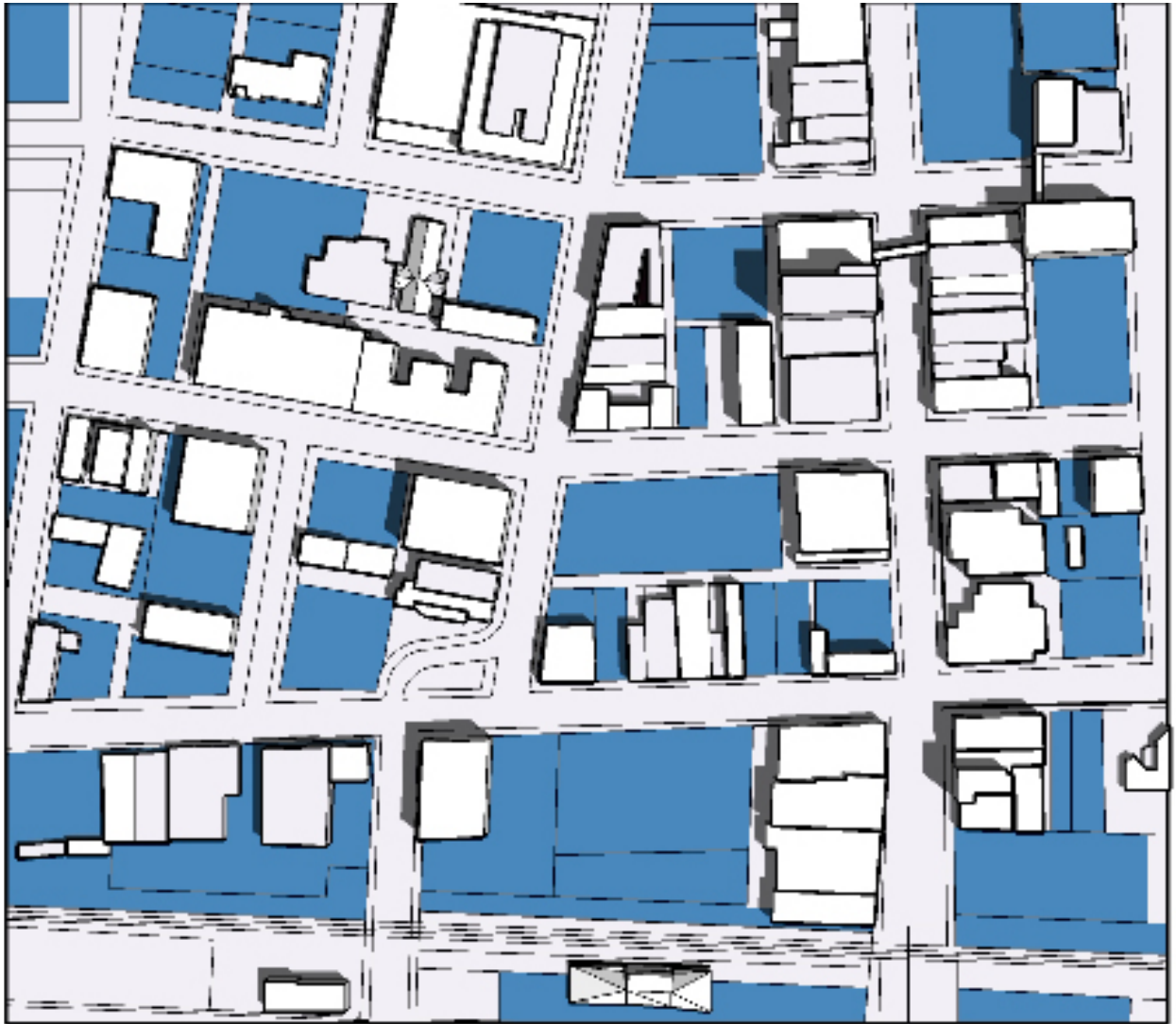
VEHICULAR AND PEDESTRIAN TRAFFIC



- | | | | |
|--|---------------------------------|---|---|
|  | Primary vehicular traffic paths |  | Secondary vehicular traffic paths |
|  | Pedestrian paths of traffic. |  | Current location of the MAT or (Metro Area Transit) Bus stops |

This image shows the pre-existing traffic and pedestrian paths. The arrows show the direction that the vehicular traffic is flowing. Where the red lines cross the blue swaths there are existing cross-walks. Along the south side of the east boundary one way in the south west corner is NDSU, the parking lot, and the buildings that house Old Broadway. About a block south of that are the rail road tracks. Additional pedestrian paths may be considered, like the alley way that cuts through the middle of the site in the east west direction. With the implementation of the revitalization project Fargo's downtown has seen a surge in pedestrian traffic. With the addition of the NDSU downtown campus (shown in the lower left) the pedestrian traffic has surged even more. Bringing young people into the downtown area, to work, to live and to go to school.

PARKING



The image above shows the available parking in most of the downtown area in blue. As you can see, parking has become an issue. There is one parking garage in downtown, as well as one underground parking garage (not visible on this map.) Despite these two structures devoted to parking, the fabric of enclosure is punctured by parking voids. By looking at the map we can see the parking voids are as numerous as the buildings themselves. This expanse of parking spaces scattered throughout the downtown area creates a space that does not promote public interactivity. Proposed for this project is to create a parking garage that will help give a sense of enclosure to the city block on which it faces the street but will also alleviate some of the parking congestion found in downtown, as well as create a more walkable series of blocks.

AERIAL PHOTOGRAPHS

This image is an over view of the city of Fargo, West Fargo, Moorhead, Horace and Dilworth. In the middle of the light blue forms is a extremely meandering path. That is the Red River. One of the few rivers in the world that runs from south to north. This meandering path shows the of the river and its flood plain.

This image shows more clearly the identifiable land marks of the city. The Red River, its flood plains, Island Park, which is located five blocks south east of the proposed site.



PHOTO 3.1.1



PHOTO 3.1.2

SITE MAPS

The map on the left shows the proposed site, in its urban context.

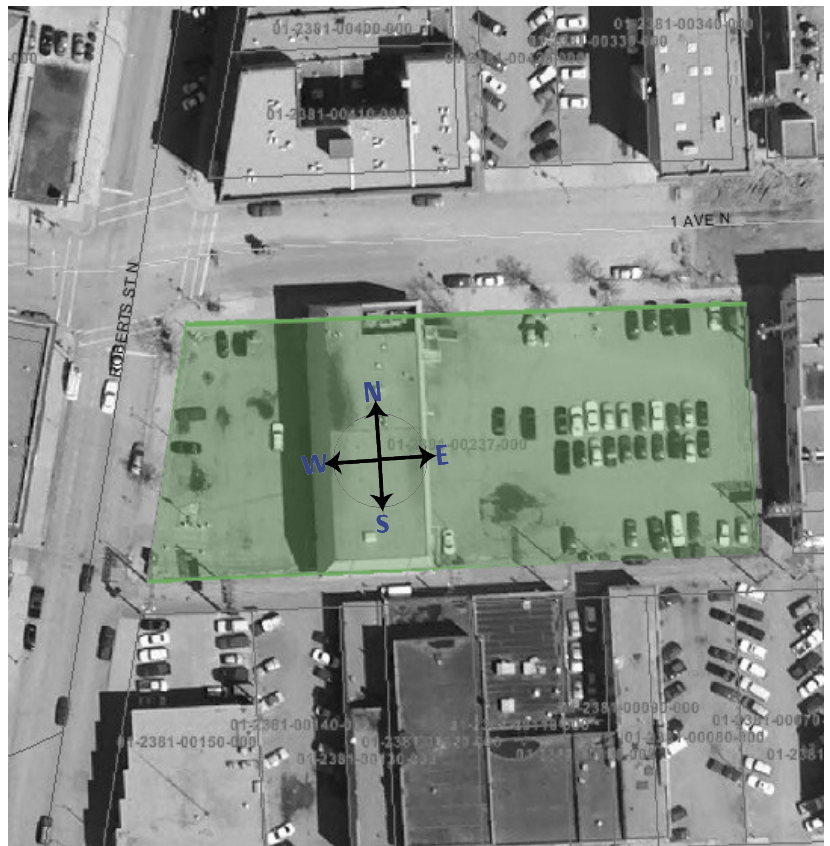


PHOTO 3-1.3

The image below shows the proposed site with its property boundaries and the boundaries of the surrounding buildings. We can also see the presence of boulevard trees on the north block. Note, the current parking solutions that the down town area has to offer.

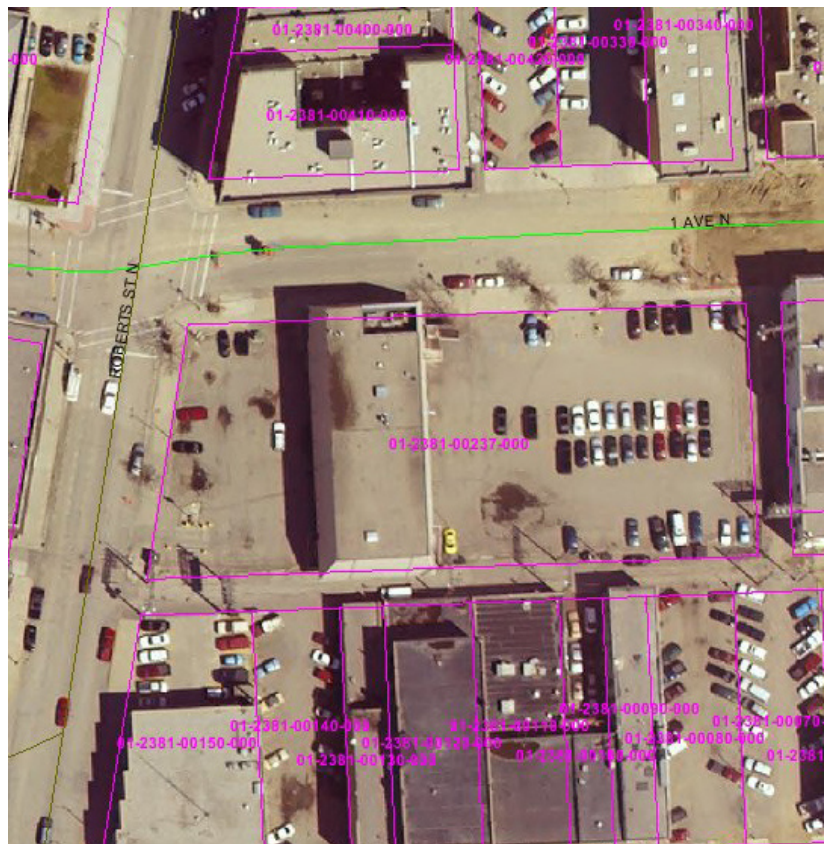


PHOTO 3-1.4

VISUAL FROM / PLANT COVER / PHOTOGRID



Opposite North East Corner Looking South



Opposite North East Corner Looking South



Opposite North East Corner Looking Southeast



Southeast Corner looking North



Opposite North East Corner Looking Southeast



Opposite North East Corner Looking Southeast

As you can see, there is very little plant cover, or vegetation for that matter, on the site or within its proximity. The only source of green space in the down town area is Island Park, which is 2 blocks south of Main Ave and Broadway. It is necessary to bring back public green spaces in the downtown area.

VISUAL FROM / PLANT COVER / PHOTOGRID



Northwest Corner Looking Northwest



Northwest Corner Looking Northwest



Northeast Corner Looking East



Middle South End of Site Looking Northwest



Middle North End of Site Looking South



Middle North End of Site Looking North

PROGRAMMATIC REQUIREMENTS

**PROGRAMMATIC
REQUIREMENTS**

ELECTRICAL DATA

Battery Back Up & Surge Protector

Outlets 12' oc

Power both 120 and 220 volt current

COMMUNICATION DATA

Telephone system both public and private

Intercom system

Wireless internet

Ethernet connections

Cable tv lines

Computer Hub-Control Center

MECHANICAL DATA

Multiple zoned Areas

Air filtration system

Hot and cold plumbing system

Elevator and elevator control area

SIGNAGE DATA

Easy to read/Highly Visible Signs are to be Used

Braille Signs Will also Need to be used

Clearly marked Fire exits must be used in conjunction with a fire suppression system

LIGHTING DATA

Minimum of 50 foot candles at Table Level and stack spaces

Minimum of 20 foot candles at floor level for storage spaces, as well as computer hubs

Tract Lighting can be used

Dimmable Light will be use in all areas and contain photo sensors for movement and light levels

Natural Day Light Should be Used as Much as Possible

AUDIO DATA

Sound Suppression Systems May need to be Used

Interior Spaces should have a sound variance of 40 - 6- db

Private reading rooms should have a sound variance of 30 - 4- bd

INTERIOR FINISHES

Interior Finishes should provide durability and ease of maintenance

Longevity and aesthetic beauty should be considered

Commercial carpet or carpet tile should be considered for the floors

Tile and/or Terrazzo should also be considered

Glass with a high glazing value should be used

Unbreakable glass on the street level

Doors should be at least 36" wide for ease of passage for the handicapped population

All non essential circulation doors should have key card access

ELECTRICAL DATA

In a library for tomorrow the electrical components are of particular concern. Considering the amount of computers and computer controlled systems, a battery back up and surge suppression system will have to be implemented. Considering the public and private spaces that will be used by various people, outlets will need to be provided at all desk areas as well as on the perimeter of public spaces. All outlets shall be outlets away from columns and convenience areas should be flush with the floor. No raised or capped outlets should be used. A surge suppression system will be used since household sized electronic appliances as well as office sized appliances will be used both 120 and 220 volt currents will be needed.

COMMUNICATION

The communication systems within the library are of utmost importance. The communication services exist of a public and private telephone system. An intercom system that will be used for the announcing of special events, closing times, and emergency situations. Cable TV lines will be provided for public areas, business areas, conference rooms. Ethernet connections as well as wireless internet will be to be implemented.

MECHANICAL DATA

Mechanical Systems:

The mechanical systems will have to provide warm and cool dry air, as well warm and or cool moist air. Multiple zones will be utilized for both climate control of public open spaces vs. The private library spaces, as well as for climate control of areas housing the stacks. The air in the controlled environments will have to be filtered.

Plumbing:

The plumbing will have to provide both cold and hot water, as well as potable (gray) water for rest room facilities as well as drinkable water for water fountains, sinks, and staff areas.

Elevators:

Elevators shall be design to accommodate occupancy loads, and be located in high areas of pedestrian traffic. A service elevator will also be incorporated to allow the for movement of stack material as well as any other needs of the library.

SIGNAGE

Large clear distinct text shall be used for description of hours of operation as well as services provided by the library and events being held at or by the library. The name of the Library should be visible and legible to motorists as well as pedestrians, form the streetscape. Braille signs will also be included in all human scaled sign elements.

LIGHTING DATA

Lighting levels in a library are of particular importance. The spaces must take advantage of natural light as much as possible to achieve and maintain appropriate foot candles at night. Lighting levels in the library should be a minimum of 50 foot candles sustained at table level and for book stacks, storage, and non assigned spaces a minimum of 20 foot candles, sustained uniformly at floor level should be used. For computers and multimedia rooms 20 foot candles on floor level should also be used, as well as the lack of direct glare on the computer screens. Track lighting of the purpose of the building will be considered as light sources, and not just accentuating light. Dimmable Ballasts shall be used in discussion, learning areas, and photo sensors shall be used in main public spaces, especially those who are primarily lit by sunlight. Emergency lighting will also be included.

AUDIO

Since the library is located in an urban area, sound issues are present. The urban spaces will have dampen the sound through the use of barriers distance travels through the library area. In the interior public spaces sound levels will be kept at 40 - 60 db through the use of acoustical absorbing materials. The private reading spaces will be around 30-40 db levels through the use of barriers, materials and distance.

INTERIOR FINISHES

Interior Finishes should be durable and provide an ease of maintenance. They should also have longevity, safety, non volatile components, as well as aesthetic beauty.

Floors:

High grade commercial carpet or carpet tile should be considered. Recycled material with low volatile organic compounds and no CFC's or HCFC's used in production. Tile and/or Terrazzo should also be considered for rest rooms, public areas, computer rooms, and the central nervous system of the library.

Walls:

Materials that require little to no maintenance should be used as external components, as well as little to no refinishing needed. The walls should also be resistant to vandalism. Portions of these walls may need to be one way viewing walls or opaque, their location should be taken into consideration for safety and protection.

Glass and Windows:

All glass should have the glazing, unless otherwise specified. Glass on street level may need to be unbreakable glass for safety and protection reasons. Windows located in areas of the building whose environment is not as closely monitored at the book receptacle areas are allowed to have operable windows.

Doors:

All doors should be at least 36" wide to allow for the ease of use for the handicapped population. Designated public areas as well as doors leading into the main complex should be automated and able to lock. Interior complex doors should be accessible through key card access, with a fire alarm system automatic unlock system.

Mill work

Mill work will be selected in accordance with the design features, but may include cabinets, shelves, circulation elements, carts as well as work desk tops.

PRELIMINARY ESTIMATION OF SPACE ALLOCATION AND COST

ENTRY SEQUENCE

Public Park Area	30000
Mixer Space	12000
Entry Vestibule	1200
Inner Lobby	2000
Information Area	600
Daily Stacks	500
Public Lounge	3500

Total 49,800 sq ft

BUILDING FUNCTIONS

Security Control	300
Employee Lounge	400
Employee Storage	400
Loading Dock	600
Receiving Area	600
Maintenance/Storage	500
Janitors Closet	100
Building Storage	200
Additional Storage	200

Total 3,300 sq ft

OTHER PUBLIC FUNCTIONS

Public Class Rooms	2400
Art Gallery	2500
Art Lobby	800
Auditorium	2500
Auditorium Lobby	800

Total 9,000 sq ft

TEEN CENTER

Technology Space	1500
Lobby	500
Quiet space	600
Interaction Space	600
Storage Rooms	150
Study Rooms	600

Total 3,950 sq. ft

CHILDRENS CENTER

Technology Park	1500
Lobby	500
Quiet space	600
Study Space	600
Storage	150
Interaction Space	500

Total 3,950 sq. ft

STACK COLLECTIONS

Non Fiction	8000
Fiction	4000
Total	12,000 sq. ft

LIBRARY/PUBLIC SPACES

Public Technology	4000
Public Reading Room	4000
Public Quiet Space	4000
Community Action Space	8000

Net Assigned Square Feet Total : 107,120 sq ft

Add 25 % for Architectural gross factor for
Stairs, walls, corridors, rest rooms, mechanical
spaces, etc.

Total 20,000 sq ft

Total 133,900 sq ft

BUSINESSES

Coffee Shop (Service)	150
Coffee Shop (Patron)	250
Coffee Storage	150
Storage	150

Approximate cost at 150 dollars per square foot

Total \$20,085,000

Storage 150

Total 850 sq.ft

ADMINISTRATIVE FUNCTIONS

Administrative Lobby	600
Administrative Office	120
Reception	250
Director	200
Deputy Director	200
Office Manager	150
Public Relations	250
Park Administrator	250
Work Area	250
Conference Rooms	1200
Collections	150
Processing	200
Storage	150

Staff Facilities 300

Total 4,270 sq ft

DESIGN DOCUMENTATION

DESIGN DOCUMENTATION

PROCESS

PROCESS

SURROUNDING STUDIES - BLOCK FIGURE GROUND STUD-



Opposite North East Corner Looking Southeast



Middle North End of Site Looking South



Southeast Corner looking North



Middle North End of Site Looking North



Opposite North East Corner Looking South



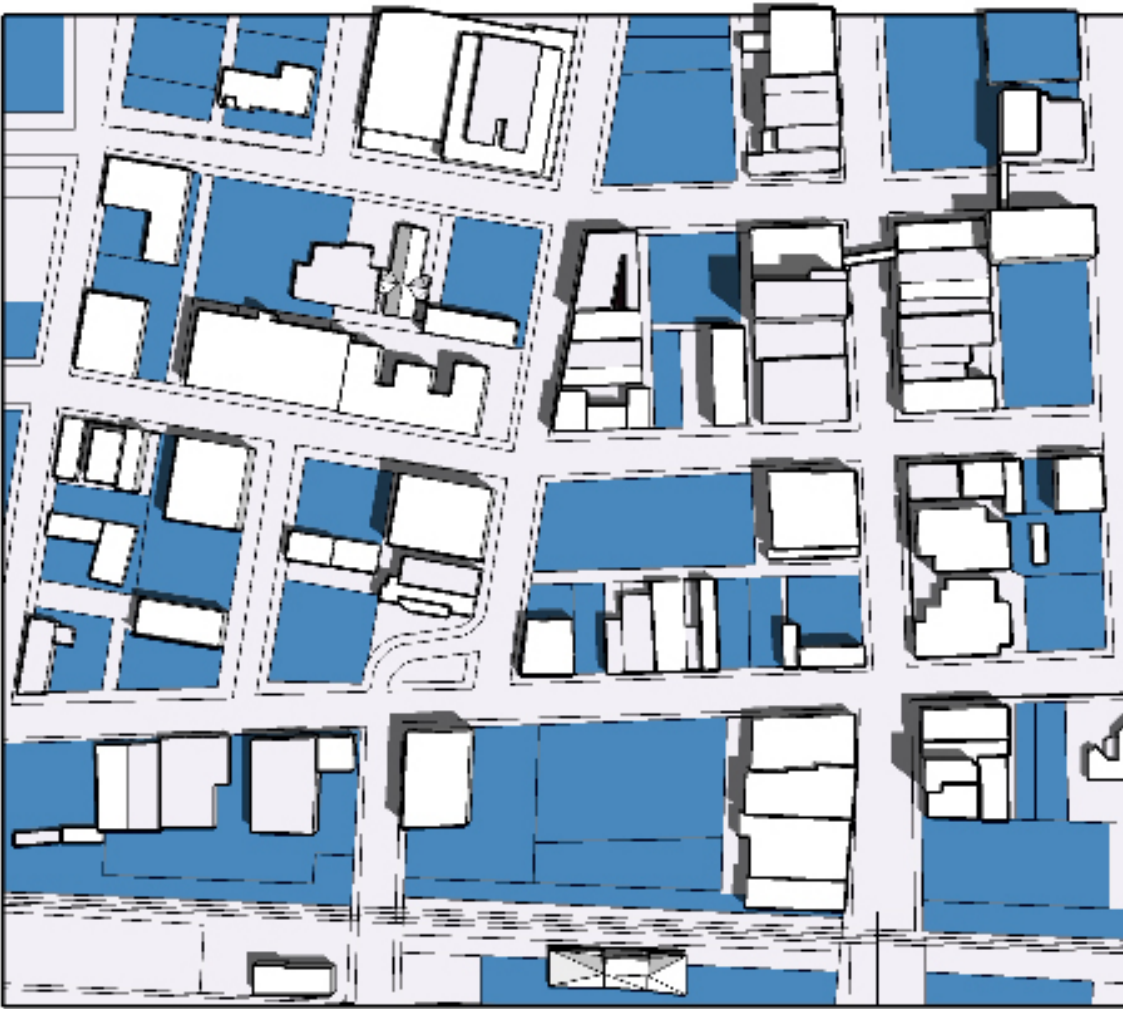
Northeast Corner Looking East

From these images you can see the breaks in the block figure ground that the current Cinema Grill building, its parking lot, and the adjacent parking lot next to the Avalon create. Broadway in particular has been working on creating more of a “feeling” of its space by enclosure. However still has problems to work out as does the surrounding blocks of downtown Fargo.



This is the open “gap” in the block figure ground which will be used for both the parking garage as well as the mixed use space which will connect the parking garage, mixed use building and the library via an underground connecting tunnel.

PARKING/VOID ANALYSIS



As a continued analysis of the block figure ground issues in downtown, this image shows the voids in the area. These voids are either empty lots waiting for buildings or parking lots. As you can see, there are more voids than buildings after you go east of Broadway (Broadway being the almost straight road on the right-hand side of the picture). These voids cause the rest of the downtown environment to seem lacking as well as an unfriendly pedestrian walking space. When compared to other cities in North Dakota, we can see the more dense downtown areas. The image on the next page is of Grand Forks, North Dakota, and shows the difference between densities.

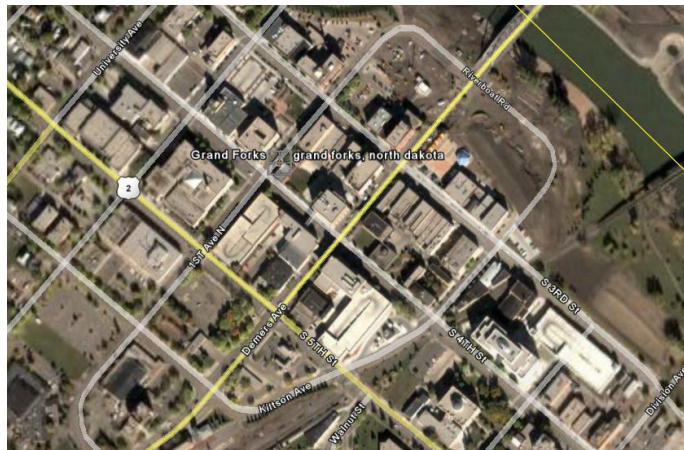
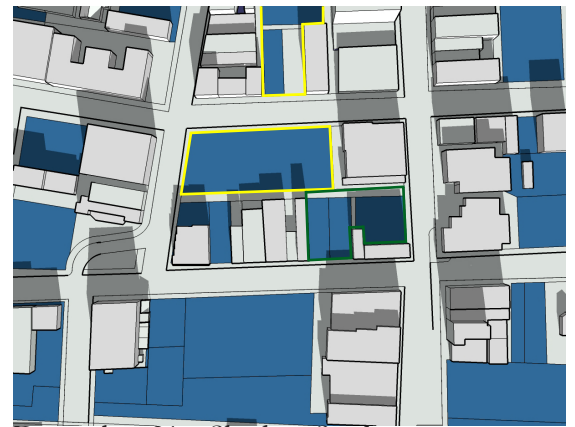


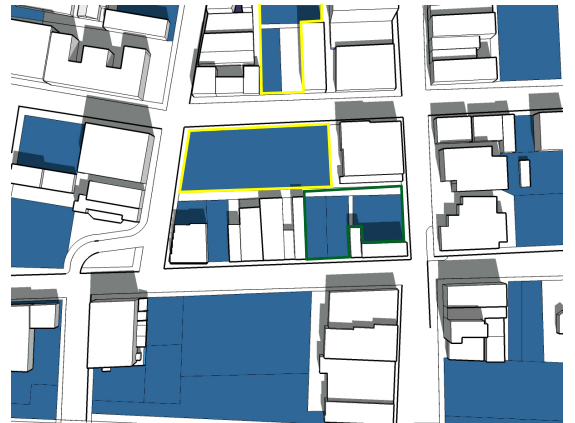
PHOTO 3.1.5

SHADOW STUDIES

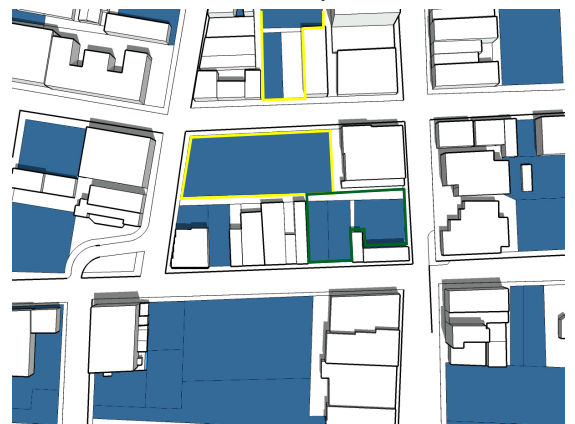
We can see in the shadow studies that the chosen site for the building is in constant light (the yellow highlighted boxes). Both in the winters and the summers as are the future sites of the parking garage and mixed use building across the street to the north. Place any type of building over two stories on this site will reduce the amount of direct sunlight the opposite (North) side of the street receives. So the reduction of light on those buildings is inevitable. However, through careful planing it is possible to allows as much light to both the library site and its adjacent buildings. The area that will be come the park has a portion of it that remains shaded most all year round (area lined in green). This area is the in shade most of the year. However this shaded area of the park is actually the handicapped accessibility for the building on the corner. The rest of the corner receives sunlight during the year.



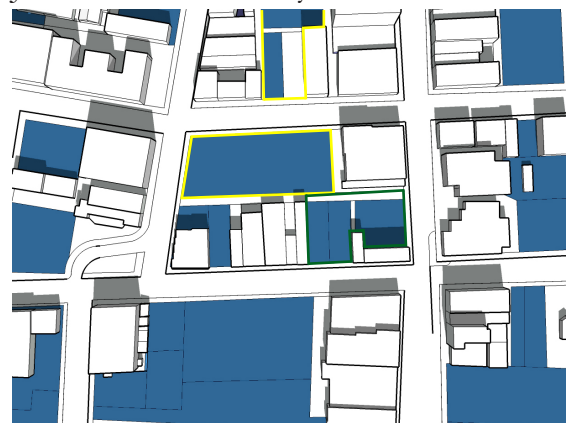
December 21st Shadow Study



March 21st Shadow Study

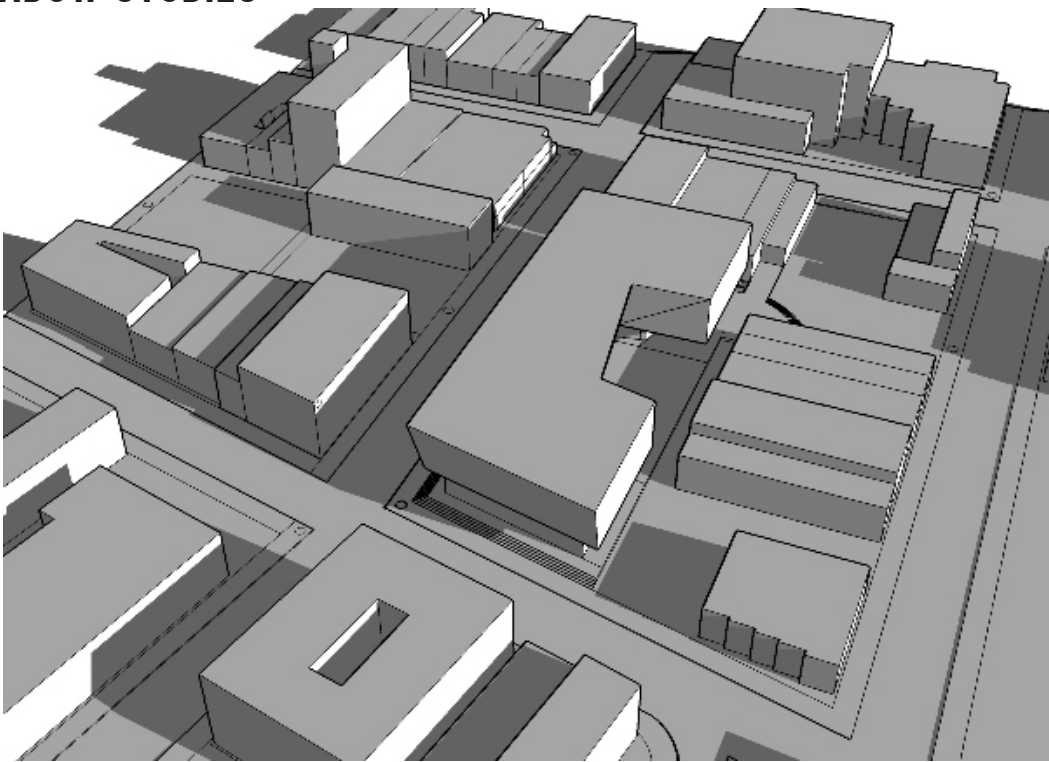


June 21st Shadow Study

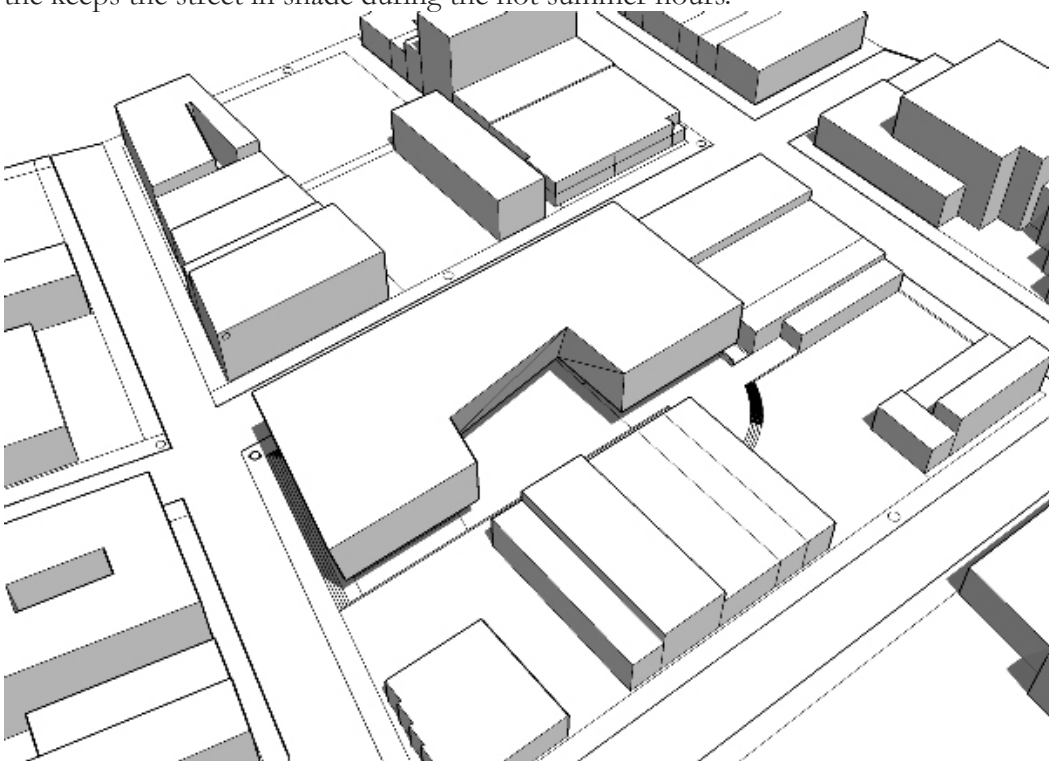


September 21st Shadow Study

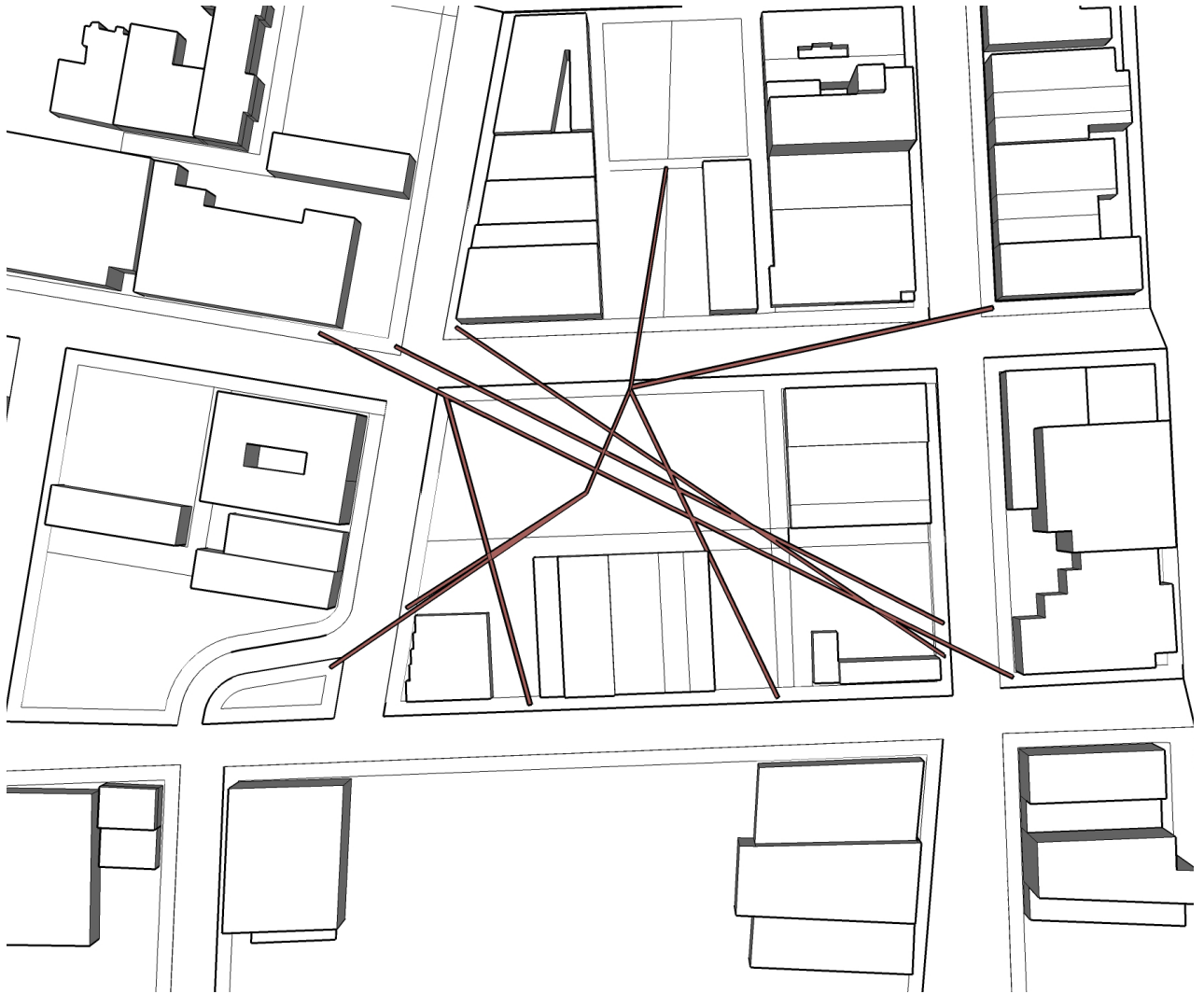
SHADOW STUDIES



The top image shows a massing design if you look at the opening cut in the back on the building you can see that the winter light pierces the courtyard space allowing as much light to the street facade as possible. The West end of the park actually remains in full direct light during the winter months. The image below show the sunlight in July. As you can the courtyard of the building creates a sunshade “shelf” the keeps the street in shade during the hot summer hours.



VIEWS ANALYSIS



The bottom image is from the back of the current building, the Cinema Grill. From behind this building's parking structure you can see the Federal Court House of Fargo. Using the idea, a view analysis was done through a computer model. The top image shows some of the primary views that are present with the removal of the current building.



ANALYSIS SUMMARY

SITE ENCLOSURE

Through the analysis and process phase many key elements were discovered and decided upon. By looking at the surrounding blocks and their lack of enclosure, it was obvious that a solution needed to be found to help the chosen site and subsequent blocks achieve a sense of enclosure.

SUNLIGHT

Through analysis of the sunlight on the site and the surrounding buildings, it was clear that during the summer the North side of the sites block had to be protected and shaded to give the street a cool feeling, but at the same time had to use the light to create an area that would create visual interest to the pedestrian, and with the interest walkability to the park and the building. The winter shadow study showed that the street needed to be in as much sunlight as possible both because of our cold winter seasons but also to invite people into the building its self. These conditions were meet by creating a void at the back of the building. This void had a inward facing sloped wall which acted as a natural sun shade device for the building. This void, being located on the south side of the site, allowed the summer sun to be blocked from the buildings center as well as creating a shaded shelf the projected onto the street. This void also acted as a sun catcher in the winter, allowing the direct sunlight to hit the center of the building for warmth, it also acted as a directional guide to direct the sunlight through the courtyard onto the street on the north facing sidewalk. This void meet all conditions that were addressed pertaining to the sunlight analysis.

VIEWS

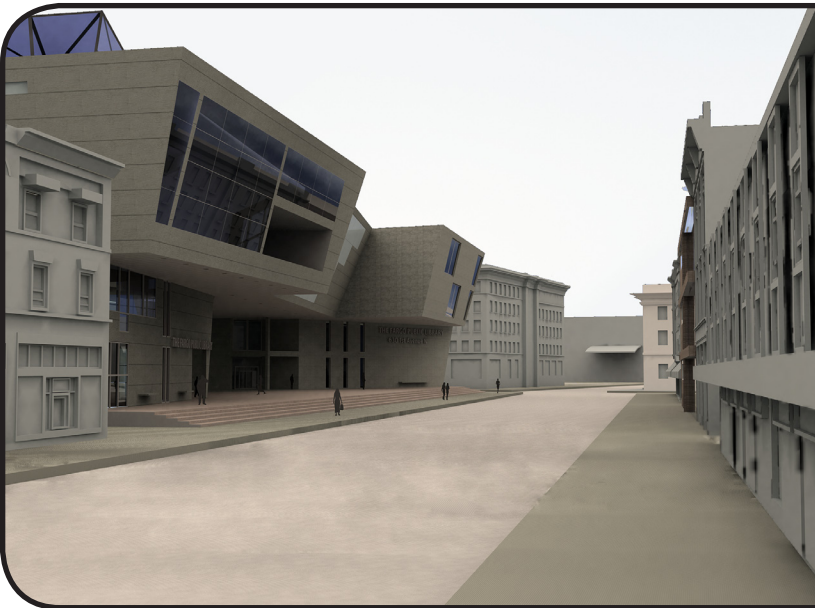
Through the discovery of the views possible from the back of the block of the site. The analysis of these views created a center spot within the site where most of the views converged. This center spot will go on to be come the courtyard. This center spot is also where the “sun void” was placed to meet the criteria for the sunlight analysis.

SOLUTION

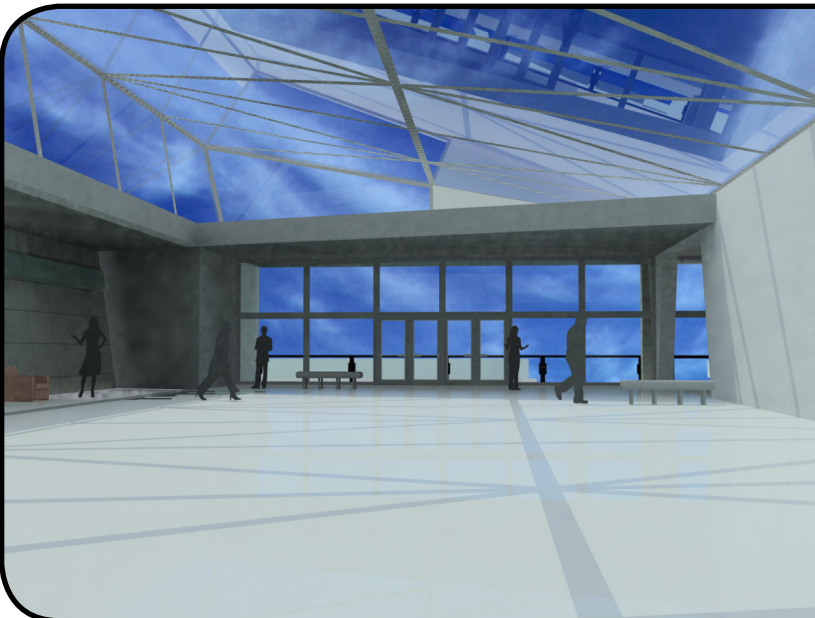
SOLUTION

FINDINGS

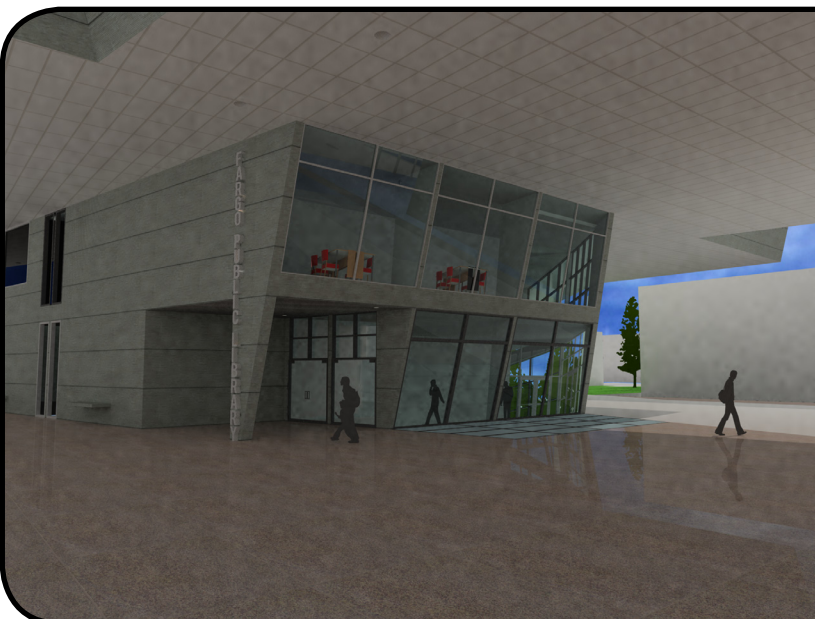
Through my theoretical premise papers and my site analysis, there arose two main theories and one main metaphor that drove the design of my building. The first theory is that of Interaction. That is to say that knowledge is created, knowledge is built upon the shoulders of the people who came before us. Knowledge is not something that you tap into but rather it is something that is passed on to you. This can be through spoken words, written text, song or even dance, but that knowledge is created through the interaction of an individual and its environment or through the interaction of that individual and another individual. This interaction, or according to Karl Marx's conflict theory, is how knowledge is created. Once created it then must be transferred to someone else for it to have any real meaning. The most constant and influential form of this transference is through observation. Children watch parents and act accordingly. Cultural norms, societal norms and even individual actions can be and usually are, dictated by social interaction and observation. This string of theories was evident in every design decision made. It can be seen by the incorporation of a public park and the library, the large open entry sequence to the two wings of the buildings, and the sloping wall which allow for easy view the street scape around you. The second main theory is that of Dialecticalism. This concept that there is struggle between opposites can be found everywhere. This struggle does not imply something bad, it merely describes the action between two opposites. These opposite forces can be found within a city as a neighborhood struggles to define its self as a area of commerce during the day and an area of relaxation during the night. This struggle can also be found in man himself. Mankind struggles with the public and private sides of its personality daily. There are different social norms to follow for someone outside the house as opposed to someone at home. This dialecticalism can be found in my building by the way the building extends out into the street with its cantilevers but also pulls back in the inner courtyard. It also be seen through its sloping walls pulling inwards, or the two wings of the building, one for public use via interaction and observation or the private wing at opposite end which caters to more silent, inward focusing attributes. The last point is the metaphor that knowledge is like light that pierces or punctures the night, with the night being ignorance. This metaphor is carried through the building as well. From the concrete trusses whose webbing appears to be being poked through into the inner parts of the building, to the inner courtyard which punches through the building to create a visual tie to the public park and the court house.



The building creates a sense of enclosure for the block while still allowing interest in what is taking place in the void. The design utilizes inward sloping components to maximize the east of view both out of and into the third and fourth floor windows for ease of public observation.



This is the community action space. This space allows for the meeting of various community programs, be they city council meetings or building council meetings or any other congregating space the city may need. This space has a large sky light, balconies, and inward sloping walls to maximize the possible community observation one needs.

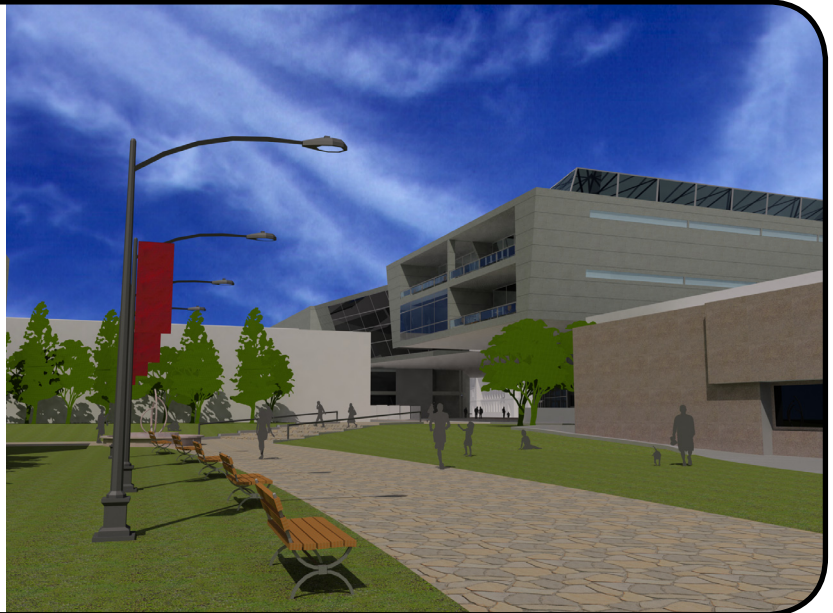


This is the entrance to the public core of the building. The building itself protects the entrance and at the same time allows the patron to gain direct access to the public park. This space can be used for various functions and as well as a stopping point to find out what functions throughout the city will be taking place.

This is a birds eye view over looking the site and its context. Here the public park is visible as is the mixed used building to the north of the Library. The parking garage is directly behind (North) of the mixed use building. The underground tunnel allows for direct access to the library, and from there the rest of the downtown.



This shows a pedestrians point of view upon entering the public park. From here you can see the Library with its cantilevered wings extending out over its courtyard. From this vantage point you can also see through the building to the Federal Court House. The park is located on the Northwest corner of Broadway and NP Avenue for high visibility.

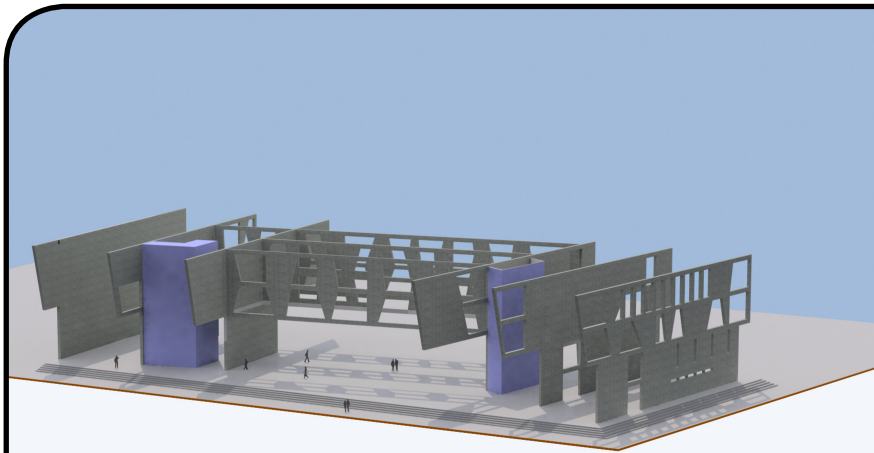


This is a view from the corner of 8th Street and 2nd Avenue N. From this vantage point the pedestrian can essentially see through the building, reinforcing the interaction theory of knowledge. This vantage point also allows the user to see through to the public park and thusly out to Broadway, establishing the visual link the rest of downtown.





This image shows the main interior pedestrian circulation path. Its inward sloped walls cause the user to look onto the street and entrance stairs enforcing social observation. When the user looks to the left he is looking through the webbing of the concrete truss. This webbing appears to be punctured, enforcing the metaphor that knowledge is the light the punctures the dark.

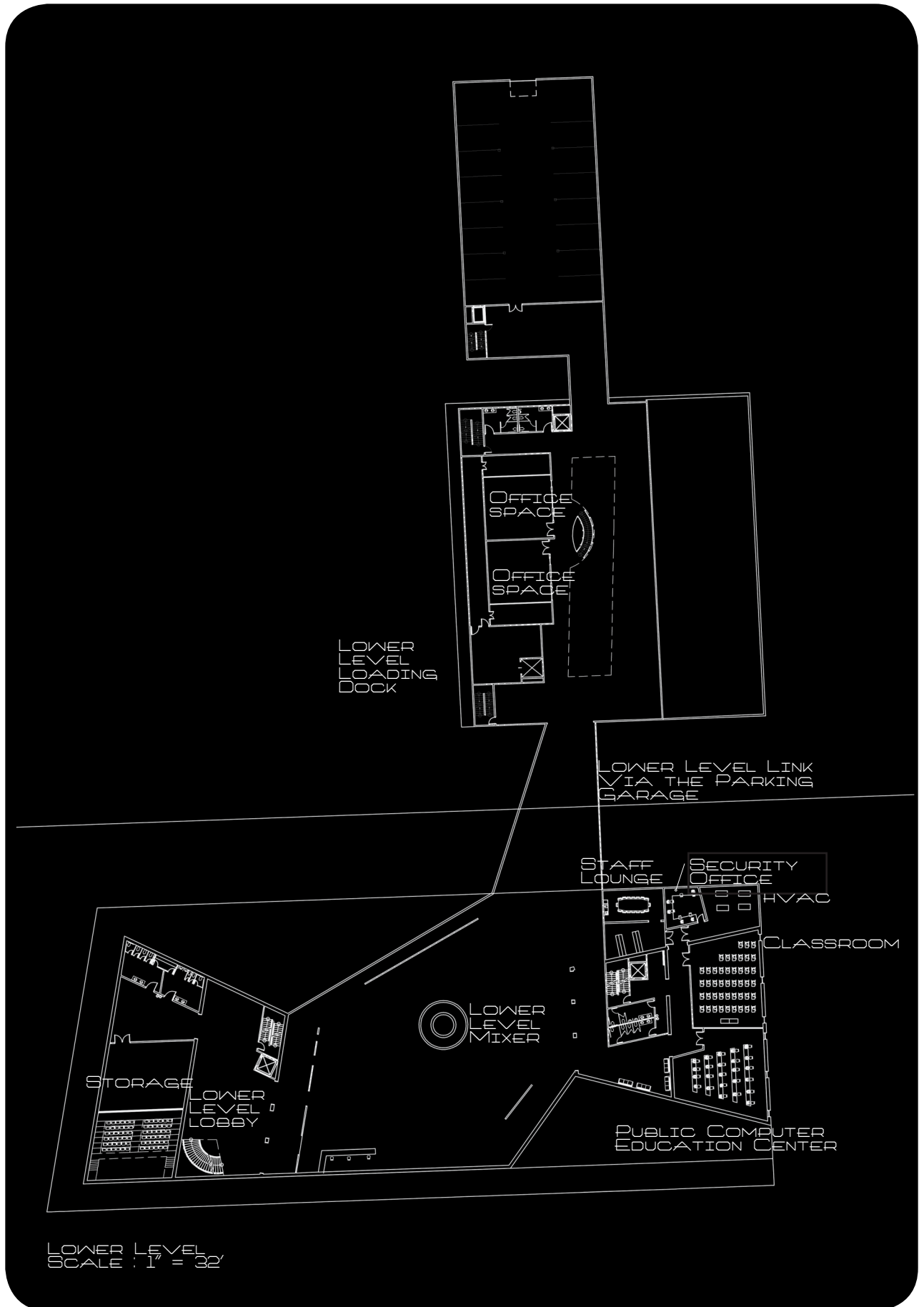


This is the structural components of the building. The building is composed of 18 Vierendeel trusses which allowed for the large cantilevers. These trusses then act as both the wall systems and the floor systems. The webbing of the truss give the appearance of the concrete wall being punctured or pierced. Maintaining the metaphor that knowledge is a light that pierces darkness.



This is a cross section cut of the building. Here you can see how the trusses act as both wall systems, floor systems and the extension of the light metaphor. You can also see the atrium space on ground floor, the public wing and the sky light over the Community Action space. This image also shows the underground mixing level which brings people in from the parking garage.

FLOOR PLANS

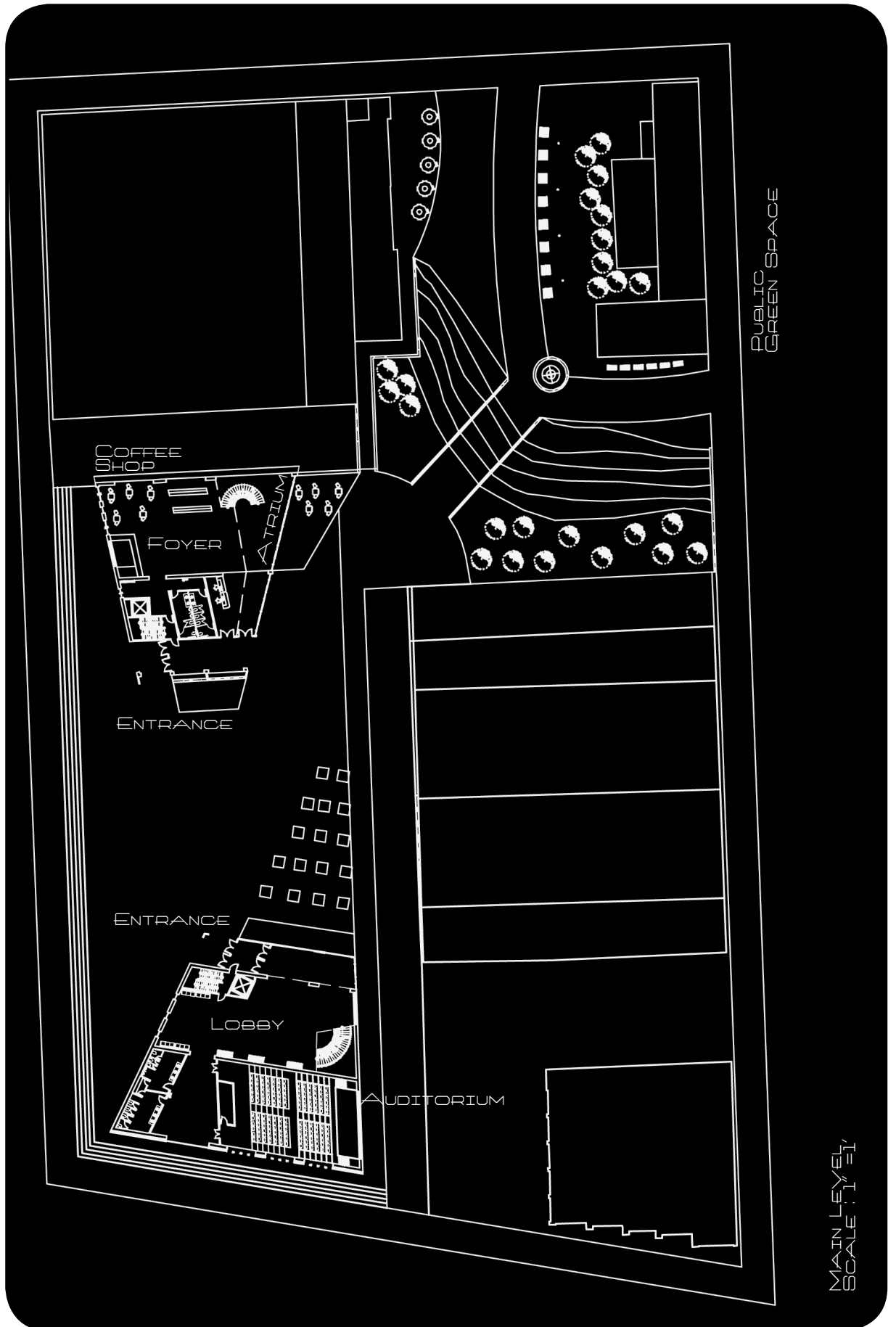


LOWER LEVEL
SCALE : 1" = 32'

FLOOR PLANS

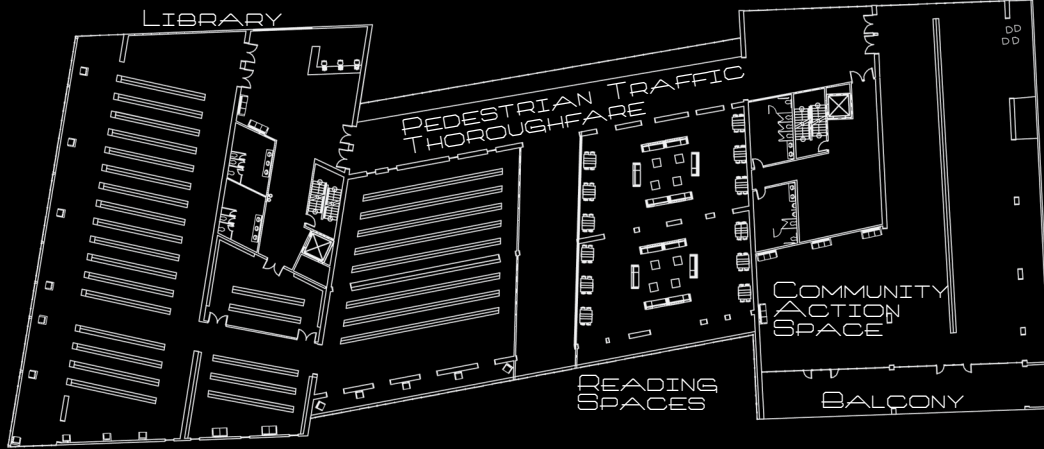


FLOOR PLANS

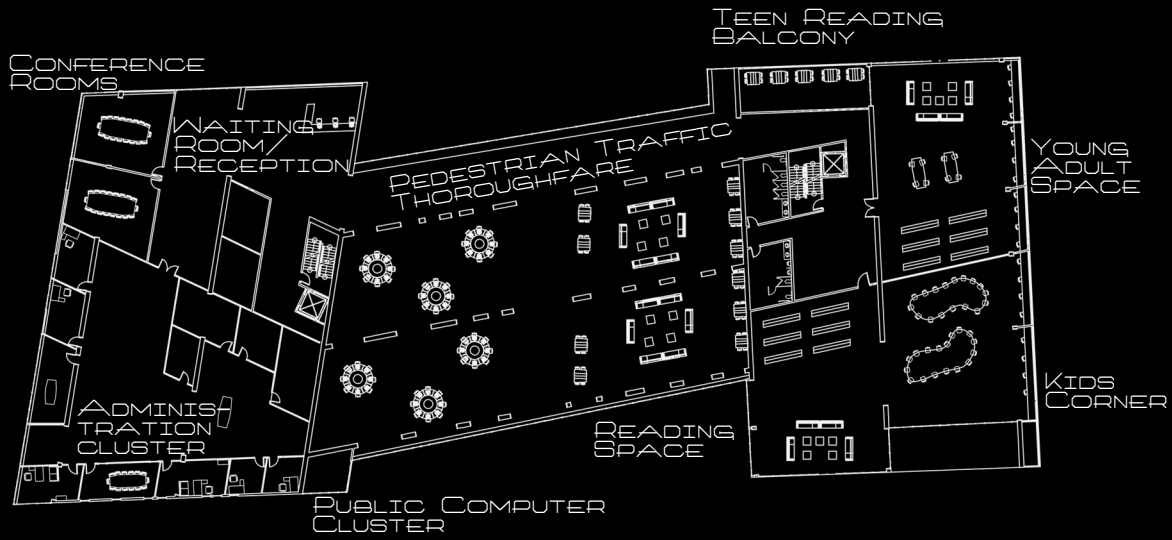


MAIN LEVEL
SCALE: 1/32"

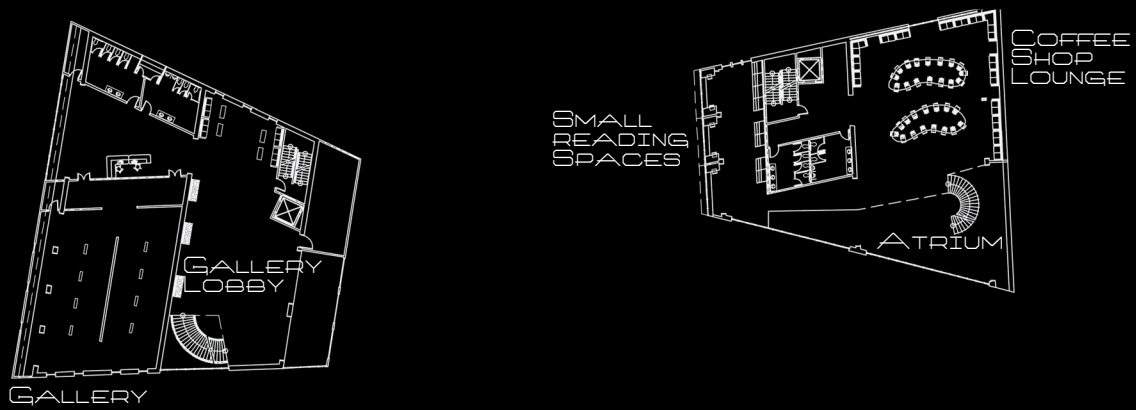
FLOOR PLANS



FOURTH LEVEL
SCALE : 1" = 32'



THIRD LEVEL
SCALE : 1" = 32'



SECOND LEVEL
SCALE : 1" = 32'

PRESENTATION BOARDS

THE CENTER FOR THE REBIRTH OF THE FARGO PUBLIC LIBRARY

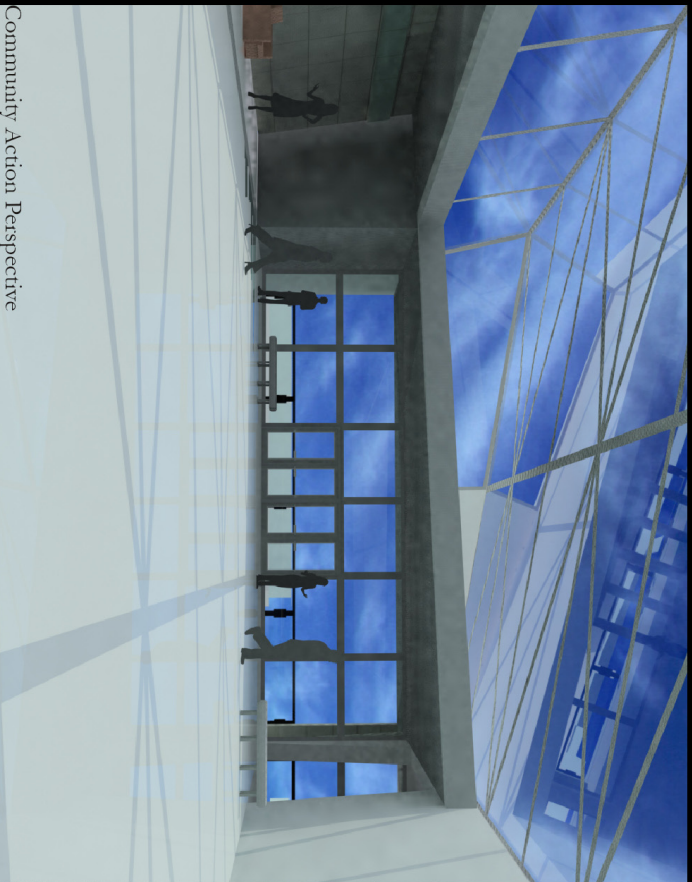
Knowledge is built upon the shoulders of the men and women who have come before us. Knowledge is something gained through interaction. In an urban environment this interaction takes on many different roles. The driving forces for this design was the integration of the many different forms of inter activity. The intent in this design was to engage all forms of passersby. Whether it be motorists, pedestrians, or members of the downtown community, the intent of the design was allow you the interactions that we all at times need. The building will become the new Fargo Public Library creating a central point for downtown Fargo. Creating a modern piece in a historic downtown area was a challenge, as was maintaining the blocks figure ground. The Center for Collective Knowledge will be a building that facilitates all types of knowledge. Human interaction, spoken word, written word, as well as audio and visual forms. It is a building that also you to experience as well as learn in your environment.



South West Perspective

PRESENTATION BOARDS

COLLECTIVE KNOWLEDGE AND REVITALIZATION OF THE DOWNTOWN COMMUNITY



Community Action Perspective



Entrance Perspective

The image on the left is of the Community Action Space. In this space different aspects of community functions can be held as well as library functions as they arise. It is an open space filled with natural light which makes it quite and calming and well as engaging at the same time. The image on the right is of the entrance to the public wing of the building. This public wing houses the teen and children centers, the class rooms, public computer clusters and the community action space. The site itself drove many of the components for this building.

The site lays in Fargo, North Dakota, on the corners of 1st Ave N and Roberts street. It is currently occupied by The Cinema Grill, an abandoned building. When analyzing the site and its surroundings there were a couple of strong points that presented them selves. One, the downtown area, despite its best efforts thus far, is still a broken landscape filled with

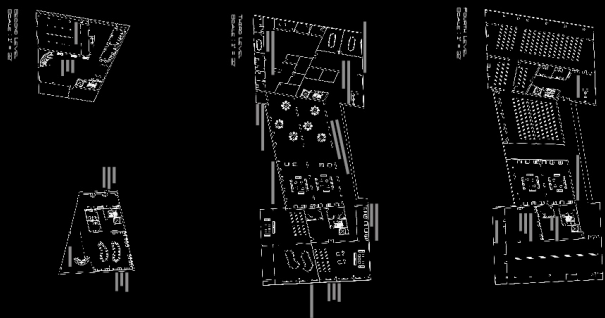
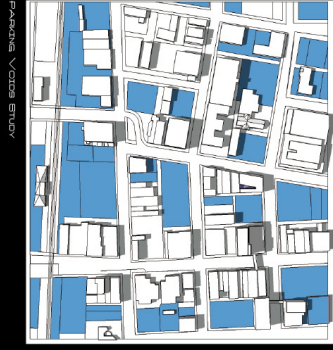
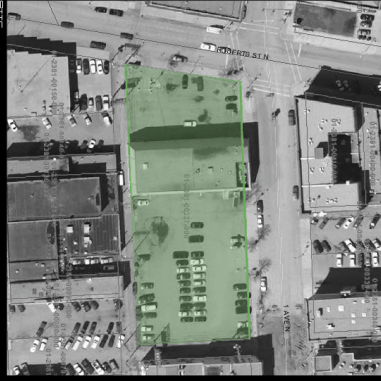
PRESENTATION BOARDS

parking lots, breaking the continuity of the block. Secondly, from almost every corner on which the abandoned building stood, a person was able to look “through” a block that would have normally blocked to view. The small middle top image shows the views that would be present if the Cinema Grill was not there. The small top middle figure represents the parking lots that litter downtown Fargo in blue. The second image is the actual site, sitting in its surroundings with the third small image showing the views that are possible if the abandoned building was removed. These issues lead me to the solution you see.

The large image shows the library being lifted off of its site, allowing for the views to be opened up. By doing this an open parking lot presented its self to be turned into the only green space located in downtown Fargo. Across the street a mixed use building filled another void on the block, and the third building behind that the dark gray one is a parking lot with underground access to the library. This building will act as a focal point for downtown as well as people who live far from downtown. The library will become important in keeping the community informed of what the community is doing.



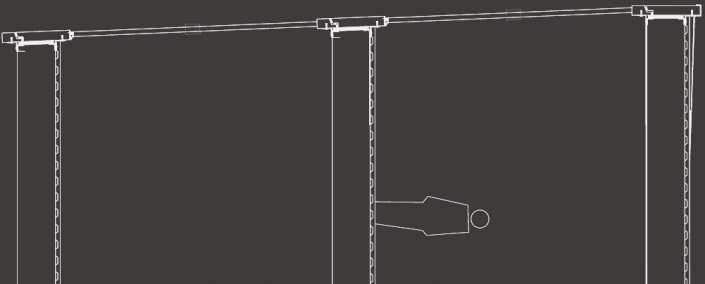
PRESENTATION BOARDS



PRESENTATION BOARDS

FARGO
PUBLIC
LIBRARY

DETAIL OF WALL IN EXISTING PICTURE
LOCAL DETAIL 28 5/8" x 1"

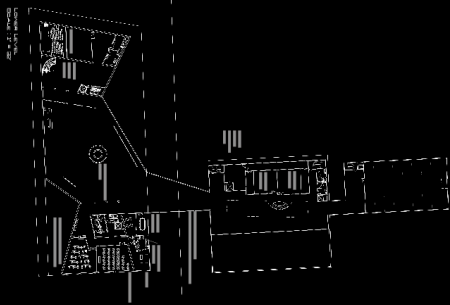
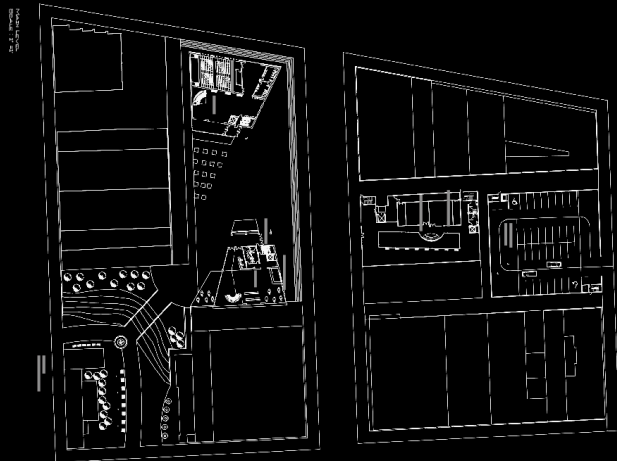


MAIN FLOOR PLAN THROUGHSHARE PERSPECTIVE

PRESENTATION BOARDS



Графическая презентация
 Конкретные этажи, фасады,
 лестничные клетки, трансформаторная подстанция





Special Thanks to my family, friends, faith and faculty. To my family who gave me the strength, motivation and love to complete my journey. To my friends who helped me stay the course when I got lost. To my faith, which lifted burdens from my shoulders in time of need to make the journey bearable and to the faculty who gave me the knowledge to find the finish line.

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